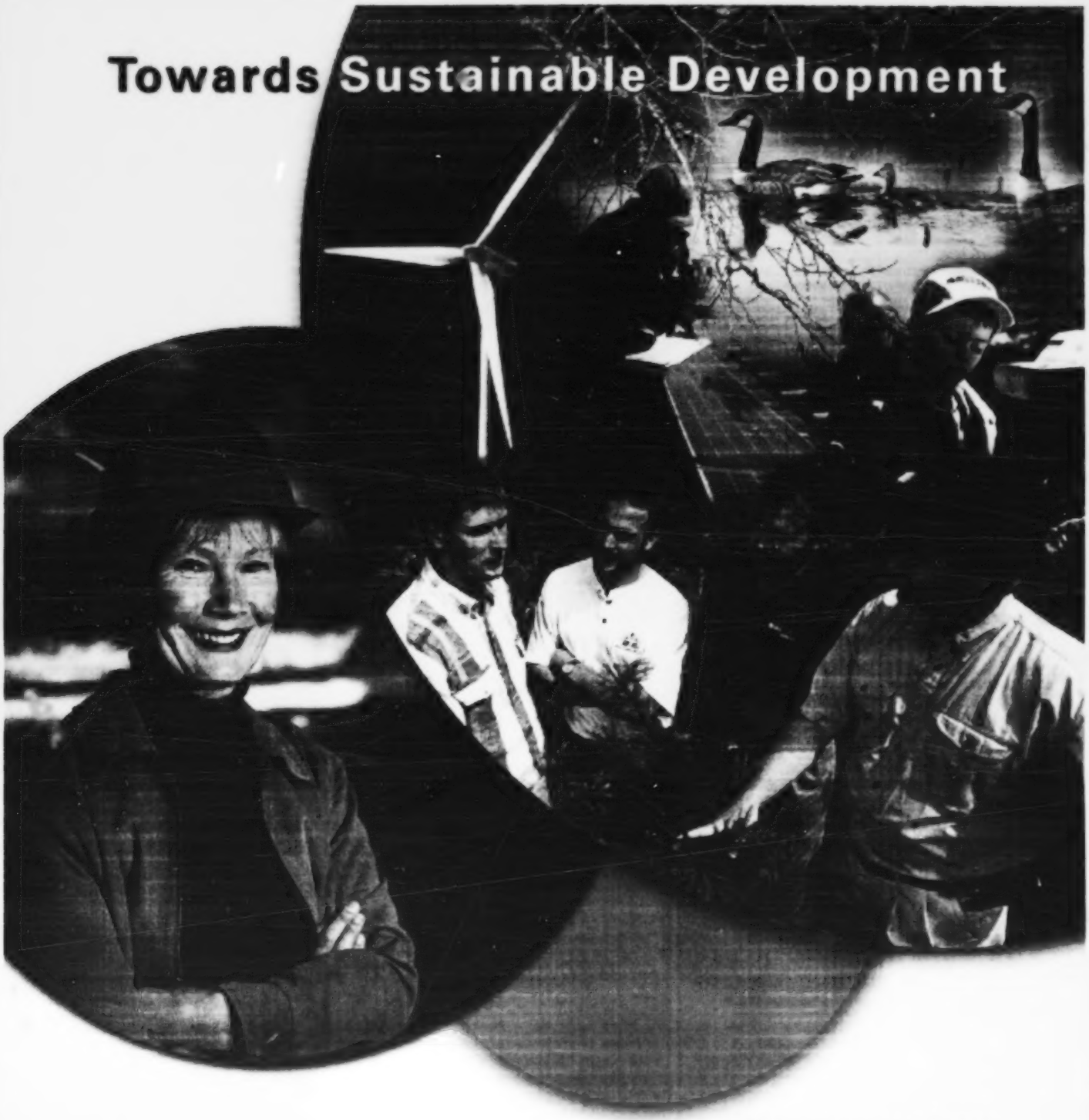
Towards Sustainable Development



2001 PROGRESS REPORT

ONTARIO POWER GENERATION

PROGRESS IN 2001

This report is designed to chart the progress we have made in 2001 in living up to the commitment we made in 1999 to become a sustainable energy company. Since then, we have published a sustainable development report each year so that stakeholders can monitor our performance. This is our third report.

In 2001, we began work on a quarter-billion-dollar project to install Selective Catalytic Reduction technology at our Nanticoke and Lambton stations to reduce the impact of fossil-fueled electricity generation on air quality. A $1.5 billion commitment to return Pickering A to service as one of the safest nuclear plants in North America will also make a significant contribution to air quality in Ontario.

The journey to sustainable energy development takes commitment. It also takes time. We are on our way.

KEY PERFORMANCE INDICATORS AND ACHIEVEMENTS

- Received U.S. Environmental Protection Agency's Climate Protection Award for our internal energy efficiency program.
- Reduced emissions of acid gases per unit of electricity for the fifth straight year.
- Received our second Outstanding Stewardship Award from the National Hydropower Association for the Madawaska River Management Review.
- Pickering Nuclear received Corporate Habitat of the Year Award by the Wildlife Habitat Council.
- Received Conservation Award from Carolinian Canada Coalition for our reforestation program.
- Received Award of Excellence from the Canadian Electricity Association for top-quartile safety performance.
- Lennox Generating Station named Corporate Citizen of the Year by the County of Lennox and Addington.
- Employee volunteers contacted nearly 12,000 households in 2001 "Neighbourhood Walks".
- Corporate Citizenship Program contributed $2.1 million to over 550 community projects.
- Placed into operation the largest (1.8 MW) wind turbine in North America.
- Investing $400 million over the next five years to upgrade and expand hydroelectric power production capacity.
- Launched a venture capital subsidiary to invest $100 million over three years in emerging energy technology companies and funds.
- CNSC approved OPG's environmental assessment of Pickering A and announced its decision to permit Pickering A to return to service.
- Contributed about $1.2 billion to date to a segregated fund to provide for safe, long-term management of nuclear waste and plant decommissioning.

Indicators		2001	2000	1999
Acid Gas Emissions per unit of Energy production	+	0.628	0.635	0.678
Energy Efficiency	+	95.91%	95.58%	95.55%
Green Power Production as a percentage of total production	+	0.58%	0.52%	0.46%
All Injury Frequency-Recordable Injuries per one million hours worked	+	8.91	10.1	15.7

+ = Improvement

COMPANY PROFILE

Ontario Power Generation Inc. (OPG) is an Ontario-based company, whose principal business is the generation and sale of electricity. OPG's goal is to be a premier North American energy company, while operating in a safe, open and environmentally responsible manner. Our focus is on producing reliable electricity from our competitive generation assets; power trading; and commercial energy sales.

As of December 31, 2001, OPG's electricity generation portfolio consisted of: three nuclear generating stations; six fossil-fueled generating stations; 40 hydroelectric generating stations; and a green power portfolio of 29 small hydro and two wind generating stations. One of the nuclear stations, the Pickering A Nuclear Generating Station, was temporarily laid up.

Total operating capacity at the end of 2001 was approximately 22,600 megawatts (MW), comprising the following generation mix: hydroelectric (7,200 MW); nuclear (5,600 MW); fossil (9,700 MW); and a green power portfolio of about 140 MW.

OPG's vision incorporates the long-term goal of becoming a sustainable energy company with minimal impact on the environment, positive contributions to society, and lasting value for shareholders.

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PRESIDENT'S MESSAGE

A famous Japanese proverb tells us that: "Life is for one generation; but a good name lasts forever." At OPG, we believe that our corporate good name, our success as a business and our "licence to operate" in communities as a major energy producer and employer is strongly connected to our environmental performance. This is especially true today, as we enter a new competitive market in Ontario – where customers are free to choose electricity suppliers and will increasingly do so by taking a hard look at their environmental record.

OPG has been committed to environmental excellence since our creation in 1999. At that time we made a deliberate decision to become a sustainable development company dedicated to making positive contributions to the environment, to the community, and to our shareholder – the government and people of Ontario.

We have now been operating as a company for three years. During that period, we have experienced unprecedented levels of challenge and change. Consistent with our electricity generating licence, we are decontrolling a significant portion of our generation to facilitate competition and choice. We are transforming our culture to become more market-driven and customer-focused. We've spun off new, stand-alone businesses from former in-house functions like research and development and information technology. This past year, we created a new Energy Markets group to develop and market electricity products to customers. We successfully negotiated a major agreement with the Power Workers' Union that gives us the stability and flexibility to pursue our competitive agenda; and we launched a major corporate restructuring initiative designed to better align our workforce with our changing generation portfolio under decontrol.

In the midst of these and other equally fundamental changes, OPG has never wavered in its environmental commitment. Indeed we have steadily built on that commitment since our creation as a company.

This report charts the progress we have made in 2001 in living up to our sustainable development values. Sustainability is an inclusive concept – embracing a broad range of goals and approaches. This report reflects that definition. It describes our performance across a spectrum of activities ranging from air emissions; waste management; and community partnerships... to safety; habitat conservation; and water and land management.

As you will see in examining this report, our results – though not perfect – are noteworthy. They include:

- the launch of our OPG-Evergreen Energy to manage our growing green power portfolio;
- installation of a 1.8 MW wind turbine at our Pickering Nuclear Station;
- $30 million invested in environment-related R&D initiatives;
- creation of a venture capital subsidiary, OPG Ventures Inc., to invest $100 million over three years in innovative and environmentally friendly energy technologies; and
- winning our second consecutive Outstanding Stewardship Award from the National Hydropower Association for OPG's contribution in developing a new water management and operating plan for the Madawaska River in Ontario.

Underpinning these and similar accomplishments is our ongoing commitment to reduce acid gas emissions which contribute to smog. To this end, OPG has made significant strategic investments in technology and programs to improve air quality in areas affected by our operations. This past year, for example, we completed the installation of low-NOx burners on units at our Lambton and Lakeview fossil stations, which will reduce NOx emissions from these units by 25% and 50% respectively. We also started installing Selective Catalytic Reduction technology on two units at Lambton and two units at Nanticoke fossil stations. When complete, this quarter-billion-dollar project will further reduce NOx emissions on these units by 80% a year. OPG is also active in the development of measurements and standards for mercury emissions and in supporting clean coal technologies.

One of our most significant contributions to air quality remains our clean generation mix. In 2001, about two-thirds of our electricity was produced at our hydroelectric and nuclear stations – which are virtually free of emissions that cause smog, acid rain or global warming. Our nuclear stations alone last year displaced the equivalent of 53,000 tonnes of NOx, 176,000 tonnes of SO_2 and 44 million tonnes of CO_2. Once our Pickering A nuclear station is fully returned to service in 2004, we will have the capability to displace even more emissions.

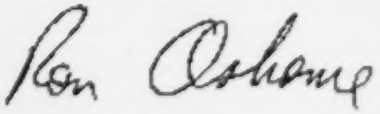
Our approach to sustainability also means that OPG is very active in the community. As a major energy producer operating in numerous Ontario communities, we adhere to the highest levels of safety and security, openness and accountability. We are equally committed to improving the quality of life in the areas where we operate. Through our Corporate Citizenship Program and other initiatives described in this document, we support and participate in many local events, programs and groups. We recognize that our presence in the community is a privilege, not a right. Our actions must constantly demonstrate that we are worthy of that privilege.

While our efforts to date are important, they represent only the first steps in our journey to become a sustainable development company. Our challenge going forward is to ensure that we "stay the course" even as we address other pressing business imperatives. As we enter open competition, we will continue to build an innovative and performance-driven culture; improve our safety performance; and complete the massive task of returning Pickering A to service. At the same time, our environmental commitment will always be as important to us as these goals. Indeed, we believe a strong environmental focus will make us even more competitive as a business.

To maintain that focus, we have integrated environmental factors into our planning and decision-making processes. We have created a Sustainable Development Council consisting of senior OPG executives to manage and implement the company's environmental agenda, and I am personally accountable to our Board of Directors for ensuring that OPG meets all of its environmental obligations and objectives.

In short, we mean business with our sustainable development strategy because we know sustainable development means business for OPG – by enhancing our reputation and providing value for our customers and our shareholder.

This report is intended to be an "open book" in the widest possible sense. It is "open" in the sense of being a full and straightforward account of all our environmental activities. It is also "open" in the sense of being a work in progress, which we intend to enlarge with additional initiatives and progressively improving results in the future. Please use it with both these meanings in mind – to better understand OPG's environmental commitment and to measure us on how well we meet that commitment in 2002 and beyond.



Ron Osborne
President and CEO
Ontario Power Generation

SUSTAINABLE DEVELOPMENT VISION

MESSAGE FROM THE VICE PRESIDENT OF SUSTAINABLE DEVELOPMENT

Last year in this report we said that OPG's vision is to be a leading North American electricity company. We also said that this vision incorporates the long-term goal of becoming a sustainable energy company.

I am sometimes asked to elaborate on OPG's vision of sustainable energy development. What does this vision entail, exactly? When will it become a reality? And what will a sustainable OPG look like?

Some might say that a sustainable energy company is one that increasingly relies on renewable energy sources. However, that is too simplistic a notion.

Sustainability is an inclusive concept, and one that will evolve on more than just one front. While the environmental dimension is critical, sustainability also means attending to our broader corporate social responsibility, to our employees, suppliers, business partners, customers and site communities. Simply put, social responsibility leads to stakeholder trust which leads to commercial success – without which there can be no long-term sustainability.

The lines are more clearly drawn now after May 1, 2002, when electricity customers in Ontario can choose their supplier on the basis of price, value-added services and reputation. To be successful in the open market, OPG must be an efficient and low-cost electricity producer. Our progress toward sustainability should also give us a competitive edge.

Continuous, measurable improvement in environmental performance has to accompany the social and financial dimensions of sustainability. This report contains many examples of OPG's progress last year in reducing the impact of electricity generation on the environment, and outlines strategies that will improve our performance in the years ahead. This includes a substantial financial commitment to green power and R&D.

What a sustainable OPG will look like in terms of its future asset mix is more difficult to predict. OPG will continue to manage a mix of generation assets, including hydroelectric, nuclear and fossil stations with an increasing amount of green power. Over the next few years, the company will sell or lease assets to meet the regulatory requirements of electricity deregulation in Ontario. In the longer term, we expect that new, low-emission technologies, and more efficient and cost-effective renewable power sources, will be added to our mix. A permanent solution for managing used nuclear fuel also holds the promise of extending the life of this virtually emission-free source of electricity.

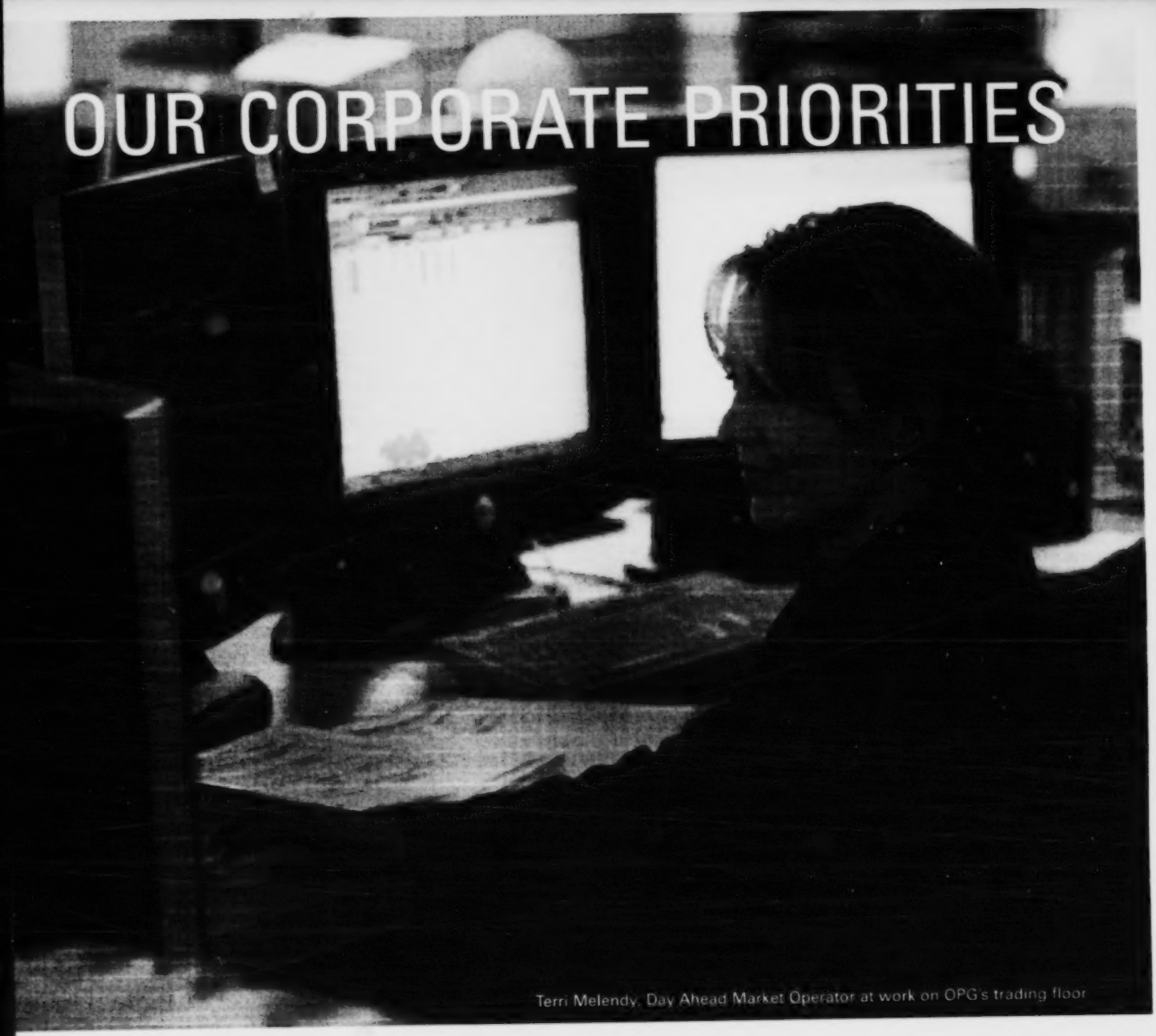
OPG is not going at this alone. The quest for a sustainable energy future involves a global network of like-minded private- and public-sector companies and associations. Best practices in the field are already beginning to emerge. Our company is working in partnership with electricity generators and associations such as the World Business Council for Sustainable Development, and the e7 who share our hopes for a sustainable future. Sustainability on a global scale ultimately calls for a global commitment, but every company needs a vision they can begin to develop at home.

For OPG to become the electricity supplier of choice in its markets, we must excel on all of the dimensions of sustainability – social, financial and environmental. Consumers will be the final arbiters of which energy products and services hold the most value for them. That is as it should be in a competitive market. I believe that OPG's record will speak for itself.

Helen Howes

Helen Howes
Vice President, Sustainable Development

OUR CORPORATE PRIORITIES



Terri Melendy, Day Ahead Market Operator at work on OPG's trading floor

OUR CORPORATE PRIORITIES

Sustainability is a significant challenge for every electricity generator, but the route to achieving this goal and the corporate priorities are unique. At this point in time, OPG's priorities include returning the Pickering A nuclear plant to service; managing decontrol of generation capacity in Ontario and becoming the supplier of choice in a competitive electricity market. OPG intends to meet each of these challenges in ways that respect the core dimensions of sustainability – environmental, social and economic. While sustainable solutions are harder to find and more difficult to achieve, they hold enormous opportunity to reshape our organization and position it strategically for future growth.

Innovation and Excellence Award

Ontario Power Generation was honoured in 2001 to receive, along with Bruce Power, a Gold Award for Innovation and Excellence from the Canadian Council for Public-Private Partnerships. The award recognizes the impressive benefits to shareholders, the community, employees and the nuclear industry resulting from the successful lease of Bruce Nuclear Station.

RETURN PICKERING A NUCLEAR PLANT TO SERVICE

OPG's most significant nuclear project is the return of Pickering A nuclear plant to service as one of the safest nuclear facilities in North America. Pickering A has a total capacity of over 2,000 MW and produces virtually no smog or greenhouse gases. It was taken out of service on a temporary basis in 1997 as part of the company's Nuclear Recovery Program.

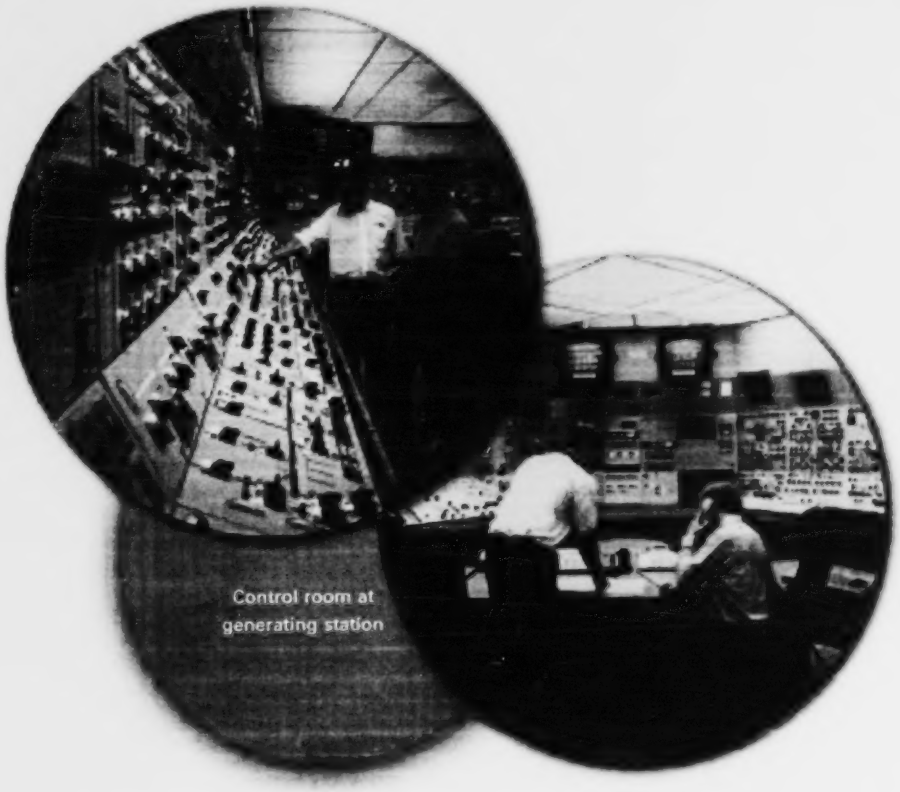
The scheduled return to service of Pickering A has been extended by the scope and complexity of both the project and the environmental assessment. It is a tremendous engineering challenge, involving the dismantling or upgrading of virtually every piece of equipment, and must be managed to the highest levels of safety. In 2001, the Canadian Nuclear Safety Commission (CNSC) reviewed and approved the environmental assessment regarding the rehabilitation of Pickering A. OPG has subsequently sought a licence to reopen the plants, which the CNSC has granted subject to us meeting a number of licence conditions. Our target is to begin commissioning of the first of the station's four units towards the end of 2002.

MANAGE DECONTROL OF GENERATION CAPACITY IN ONTARIO

OPG's generating licence requires it to reduce control of fossil and hydroelectric capacity by 4,000 MW within 42 months of market opening, and reduce its control of the electricity supply options available to the province to 35% within 10 years of market opening. OPG plans to meet its decontrol requirements as early as possible so as to focus on maximizing the efficiency of our remaining assets and leveraging these assets for future growth. Accordingly, OPG has decontrolled or announced plans to decontrol 10 generating stations representing 10,000 MW of installed capacity. These stations include:

- Bruce A and B nuclear stations, now controlled by Bruce Power;
- Four hydroelectric stations on the Mississagi River whose sale to Brascan Corporation was announced in March 2002;
- Thunder Bay and Atikokan fossil-fueled stations; and
- Lakeview and Lennox fossil-fueled stations planned.

Upon successful completion of these processes, and after Pickering A is returned to service, OPG will have a flexible, high-performing fleet of approximately 20,000 MW of capacity comprising three nuclear stations; two fossil-fueled plants; 36 hydroelectric stations; and a growing portfolio of green energy sources. Efficient, reliable, safe, and low in air emissions, this portfolio will provide a significant competitive advantage.



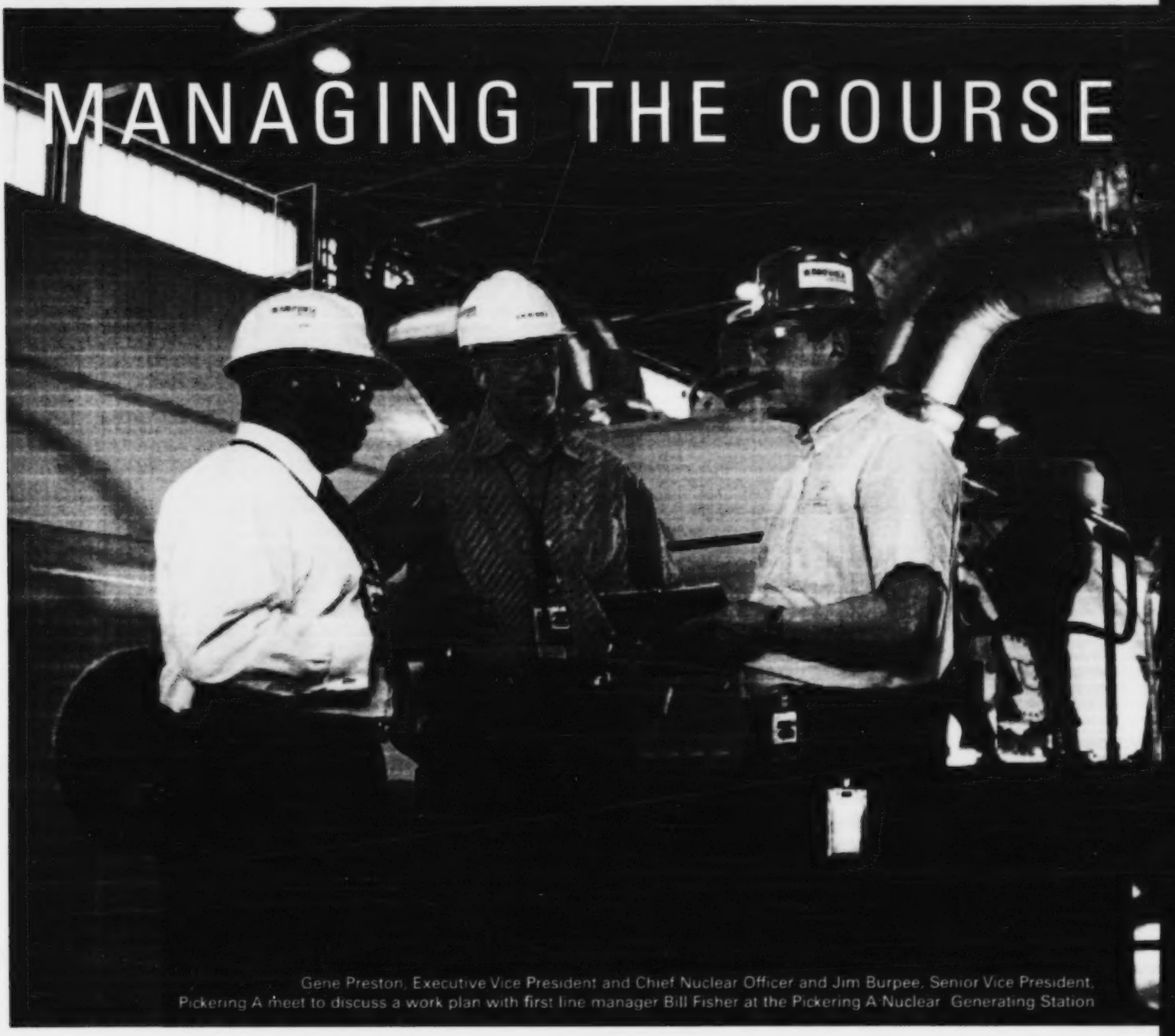
Control room at generating station

BECOME THE SUPPLIER OF CHOICE IN A COMPETITIVE ELECTRICITY MARKET

The Government of Ontario opened the provincial electricity industry to competition on May 1, 2002. In the competitive market, OPG will compete with generating companies from Canada and the U.S. to supply Ontario with electricity. OPG is positioning itself to become the electricity supplier of choice in Ontario. We have a very unique generation mix of nuclear, hydroelectric and fossil-fueled stations. About two-thirds of our current production is smog- and acid gas-free hydroelectric and nuclear, and the percentage will increase when Pickering A is back in service. We are also taking steps to significantly reduce emissions from our fossil-fueled stations. Since market opening on May 1, OPG is also the largest supplier of green, EcoLogo™-certified power in Ontario.

You can obtain more information about deregulation of the electricity sector from the Ministry of Science and Technology Web site, **www.est.gov.on.ca**, the Ontario Energy Board site at **www.oeb.gov.on.ca** and the Independent Market Operator at **www.iemo.com**.

MANAGING THE COURSE



Gene Preston, Executive Vice President and Chief Nuclear Officer and Jim Burpee, Senior Vice President, Pickering A meet to discuss a work plan with first line manager Bill Fisher at the Pickering A Nuclear Generating Station

ACCOUNTABILITY FOR SUSTAINABLE ENERGY DEVELOPMENT

Ontario Power Generation's President, CEO and Chief Environmental Officer Ron Osborne is accountable to the Board of Directors, and the Board's Environment, Health and Safety Committee for ensuring that the company manages the environmentally significant "aspects"[1] of its business. The management objective is to prevent and mitigate environmental impacts, and ensure ongoing compliance with environmental laws, regulations and voluntary commitments.

[1] *The ISO 14001 Environmental Management System defines an "aspect" as an element of an organization's activities, products or services that can interact with the environment.*

Based on a comprehensive review of its activities, products and services, OPG has identified six environmentally significant aspects in its business. They are: air emissions; conventional, hazardous and radioactive wastes; water flow and effluent discharges; material and chemical storage; land use and remediation; and the use of natural resources.

Accountability for business aspects cascades from the President and CEO, to the business units and operating facilities, to the operators who make many of the day-to-day decisions that affect the company's environmental performance.

OPG's Sustainable Development Council, comprising senior company executives, oversees the company's environmental and social responsibility agenda and implementation strategies.

Sustainable Energy Development Policy

OPG is committed to becoming a sustainable energy development company. We will work towards this goal by applying the principles of sustainable development to the generation and sale of electricity and related products and services. Enhanced environmental performance and increased competitiveness will be achieved through continual improvement in: ecosystem protection, energy and resource efficiency, pollution prevention and community relations.

For more information about our policy and commitment to sustainable development, please refer to our Web site at **http://www.opg.com/envComm/E_susdev.asp#detailsfour**.

ENVIRONMENTAL MANAGEMENT SYSTEMS

In 1999, OPG became one of the first utilities in North America to receive ISO 14001 accreditation for the Environmental Management Systems (EMS) at all of its major facilities and plant groups.

Our compliance with ISO 14001-certified EMS creates important assurances that support OPG's sustainable development objectives. Specifically, OPG's EMS create the processes whereby our company's environment policies improve the company's environmental performance, and management exercises due diligence in managing the company's environmental impacts.

The ISO 14001 system calls for continual improvement in five key areas: environmental policy; planning; implementation and operation; monitoring and corrective actions; and management review. At the policy level, this approach obliges OPG to ensure that its environmental policies are implemented, managed, and periodically reviewed within the overall context of continual improvement. At the operational level, it obliges the company's business units to manage their environmental impacts.

With the introduction of ISO 14001 EMS in 1999, we have noted a 62% reduction in reportable spills (see Figure 1: Spill Performance Trend); and no significant environmental events, charges, investigations, orders, convictions or fines. OPG's regulatory compliance is also improving year over year. Improvements are especially noticeable in areas that present the greatest risk for environmental impact and legal enforcement action. OPG reduced its Municipal Industrial Strategy for Abatement (MISA) and Certificate of Approval limit exceedances by 75% respectively in 2001 compared to the previous year.

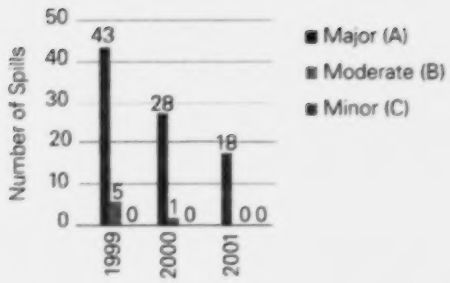
FIGURE 1

Three-Year Reportable Spill Performance Trend

No Major (A) spills reported since 1997.

OPG ranks spills according to severity based on guidelines that mirror provincial Ministry of the Environment guidelines.

Source: OPG



ENVIRONMENTAL PERFORMANCE TARGETS

Each year OPG identifies key areas of environmental performance where it will focus on improving in the succeeding 12 months, and establishes corporate-wide performance targets (see Table 1: Corporate Environmental Performance Targets, 2001-2002). Our Annual Incentive Plan process creates a direct link between management compensation and OPG's success in achieving its performance targets.

TABLE 1

Corporate Environmental Performance Targets (2001-2002)

All targets are voluntary except where otherwise specified.

Source: OPG

Category	2001 Target	Target Met	2002 Target
Spills[1]	Major (A) = 0 Moderate (B) = 1 Minor (C) ≤ 30	Yes Surpassed Surpassed	Major (A) = 0 Moderate (B) = 0 Minor (C) ≤ 19
Regulatory Compliance	Major Infractions[2] = 0 Moderate Infractions[3] ≤ 418	Yes Surpassed	Major Infractions[2] = 0 Moderate Infractions[3] ≤ 197
Energy Efficiency	160 GWh saved	Surpassed	106.5 GWh saved
Air Emissions	NOx = 38 Gg net[4] SO_2 = 175 Gg[4] NOx rate = 1.06 Gg/TWh	Yes Yes No[6]	NOx = 35 Gg net[5] SO_2 = 153.5 Gg net[5] NOx rate = 1.03 Gg/TWh
Radiation Dose to Public	Pickering = 10.0 µSv Darlington = 7.5 µSv Bruce (Jan - May) = 5.0 µSv	Yes Yes Yes	Pickering = 10.0 µSv Darlington = 7.5 µSv
Low & Intermediate Level Radioactive Waste	≤ 5,560 m^3	Yes	≤ 4,560 m^3
Ash & Gypsum diverted from landfill	≥ 740,000 tonnes	Surpassed	≥ 785,000 tonnes

(1) OPG ranks the severity of spills according to guidelines set by the company's Spills Severity Rating Procedure, which mirrors provincial Ministry of the Environment (MOE) guidelines.
(2) Major infractions are defined as Directors Orders, charges and convictions.
(3) Moderate Infractions include MISA, Certificate of Approval and Continuous Emission Monitoring violations.
(4) Voluntary target – met with the use of Emission Reduction Credits.
(5) Regulated target – may be met with the use of Emission Reduction Credits.
(6) The 1.10 Gg/TWh NOx emission rate achieved in 2001 was an improvement over last year's rate of 1.18 Gg/TWh but fell short of the voluntary target of 1.06 Gg/TWh. This target was not met mainly because of higher emissions rates encountered in the first quarter of 2001 as a result of forced outages.

REGULATORY COMPLIANCE

OPG recognizes that the opportunity to operate its generating stations in host communities is a privilege, not a right. We also recognize that our "licence to operate" is conditional on our ongoing compliance with the requirements and conditions contained in regulations, bylaws, operating permits and Certificates of Approval. Our company regards regulatory compliance as the baseline for progress towards sustainable energy development, and sets progressive targets so that our performance will continue to improve.

OPG's goal is to comply with all regulatory requirements. Our compliance is not perfect, but we have sound management systems and processes to help us continually improve, which we did again this year. In 2001, we incurred no major infractions (Director's Orders, charges or convictions) and reduced all moderate infractions by 49%, from 411 in 2000 to 209 in 2001. Of these infractions, 13 related to effluent limit exceedances under provincial Municipal Industrial Strategy for Abatement (MISA) regulations or site-specific Certificates of Approval. Our effluents failed toxicity requirements on three occasions out of a total of 514 tests.

Most of OPG's regulatory infractions are administrative in nature and do not impact the environment directly. Examples of administrative infractions, which are categorized as "moderate infractions," include late reporting, failures in monitoring equipment, and improper labelling or lost samples. Reducing the number of these infractions is a priority for OPG and performance improvements are linked to management compensation. Awareness training, better procedures and preventive maintenance will improve results.

OPG's compliance monitoring and reporting program tracks all infractions including multiple infractions that can result from a single event. This system allows for better trending of events and prioritizing of corrective actions.

While our ultimate goal is to incur no regulatory infractions whatsoever, our performance target in 2002 is to once again incur no major infractions and reduce MISA and Certificate of Approval infractions by 6%.

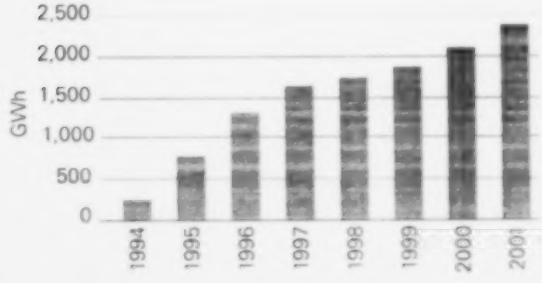
ENERGY EFFICIENCY

OPG outperformed its energy efficiency targets in 2001 for the eighth consecutive year (see Figure 2: Cumulative Energy Savings, 1994-2001). OPG's goal is to achieve average annual energy savings of 3% between 2001 and 2004. This target is considered "best practice" for industry by the Alliance to Save Energy, a Washington-based coalition that promotes leadership in responsible energy use.

FIGURE 2
Cumulative Energy Savings (1994-2001)

GWh (gigawatt-hour) is approximately equivalent to the electricity used by 80 homes in one year.

Source: OPG



Energy efficiency improvements hold significant potential for OPG to reduce its operating costs and enhance environmental performance. OPG's cumulative energy savings of 2,370 GWh, since it introduced the energy efficiency program in 1994, were valued at more than $92 million in 2001, and represent annual emission savings of 2.7 million tonnes of CO_2, NOx and SO_2. In 2002 the U.S. Environmental Protection Agency recognized OPG's achievements in energy efficiency by awarding the company its Climate Protection Award.

In addition to reducing its own internal energy consumption, OPG shares its energy efficiency knowledge with large industrial customers, who have access to OPG's Envision energy management software (see page 43) and our company's energy efficiency experts. OPG also supports external energy-saving initiatives, such as:

- Energy-efficient buildings: To encourage energy efficiency in the building sector, OPG sponsored the Ontario Lung Association Health House Award in 2001 to recognize the environmental benefits of home energy savings. In 2002, OPG sponsored an R-2000 Award for Technical Excellence.

- Education: OPG is a major sponsor of the LivingWise program, which teaches school children and their families how to conserve energy and water, and includes an energy saving technology kit. With OPG's support, the program is being delivered this year to 1,700 students in the Nanticoke area. OPG is also co-sponsoring the delivery of LivingWise with Enbridge Consumers Gas to 3,500 Grade 5 students in the Pickering and Darlington areas.

- Conservation: Destination Conservation is an innovative program designed to increase sustainability by helping schools conserve water, save energy and reduce wastes. With OPG's support, this program will be delivered to 25 schools in the Toronto Catholic District School Board in 2002.

- On-line resources: OPG is a major sponsor of the On-Line Energy Efficiency Centre, which offers state-of-the-art advice to help industry trim energy costs. The site is managed by the not-for-profit Canadian Energy Efficiency Alliance.

- OPG also participates with other stakeholders throughout North America to promote developments in energy efficiency including: Natural Resources Canada, Canadian Energy Efficiency Alliance, American Council for an Energy Efficient Economy, and the Electric Power Research Institute.

Angelo Castellan and Scott Rouse accepting EPA Climate Protection Award from Dr. Kathleen Hogan

ENVIRONMENTAL RESEARCH AND DEVELOPMENT

In 2001, OPG invested almost $30 million in environment-related R&D initiatives – 92% of this investment was related to R&D aimed at characterizing emissions, assessing their impact on the environment and studying ways to reduce them. Much of it went to support the development of new, low- or zero-carbon technologies, the fuel cell demonstration project at Kinectrics, microturbine demonstrations and opportunity fuel studies. Programs in two areas comprised the largest fraction of the investment: demonstration programs of air emission control systems for fossil generation, and the study of nuclear used fuel storage options. Many R&D initiatives are listed in pertinent sections of this report.

INDUSTRY ASSOCIATIONS

OPG is an active participant in many industry associations that have a wide range of mandates, including environmental protection, biodiversity conservation, environmental research, policy development related to climate change, and the promotion of energy conservation and sustainable development. We support stakeholder groups and Non-Government Organizations (NGOs) devoted to public awareness and advocacy, and have entered into numerous partnerships with conservation authorities, government agencies, universities and NGOs. A few examples of industry associations include:

- The World Business Council on Sustainable Development brings together more than 160 companies from 30 countries in a search for sustainable development solutions.
- The e_7 is comprised of nine of the world's leading electricity companies committed to promoting sustainable energy development.
- The Canadian Electricity Association represents Canada's 26 electricity producers and sponsors the industry's Environmental Commitment and Responsibility program.
- The CANDU Owners Group represents owners of CANDU reactors and has an extensive environmental and health and safety research program.
- The Canadian Nuclear Association promotes the development and growth of nuclear technologies for peaceful purposes.

AIR QUALITY

PROBLEMS AND SOLUTIONS WITHOUT BORDERS

Ontario Ministry of the Environment data shows that Ontario's air quality is affected by sources of smog both from within the province and from sources in the United States. On an annual basis, about half of the smog-producing emissions affecting Ontario come from sources in the U.S. Figure 3 compares emissions of nitrogen oxides (NOx) from Michigan, Indiana, Ohio, Illinois, Ontario, New York, Massachusetts and Connecticut for the year 2000. The predominant wind direction during smog season is also shown.

Graham A. Brown
Chief Operating Officer

"Our environment record is a good one. But we're making it even better – by continuing to commit money and resources to new technologies and approaches. Since our creation three years ago, we've committed over $500 million to enhance our environmental performance and we intend to do even more in the future."

Next to sources in the U.S., the second-largest source of smog emissions affecting the province, at 32% of the total, is Ontario's transportation sector. By comparison, OPG's fossil-fueled stations are responsible for about 7% of the NOx emissions affecting Ontario's air quality.

In 2001, about two-thirds of OPG's electricity was produced by hydroelectric and nuclear stations that emit virtually none of the pollutants that cause acid rain, global warming and smog (see Figure 4). This ratio will further improve once the Pickering A nuclear reactors are returned to service.

Six fossil-fueled stations produced the balance of OPG power. These stations use predominantly coal as their source of energy. They have the advantage of being capable of responding to peaks in consumer demand for more electricity on very short notice.

The major air emissions released from the combustion of coal include nitric oxide (NOx)[1], sulphur dioxide (SO_2) and carbon dioxide (CO_2). Other contaminants are also released but in much smaller or trace quantities, among them mercury and fine particulates. These contaminants are of concern because of the potential risks they pose to human health. A list of airborne contaminants released from OPG operations can be found in Appendix B on page 56.

FIGURE 3
NOx Emissions from Fossil Generation (2000)

NOx is one of the main components of smog.

Source: U.S. EPA 2000 Acid Gas Program

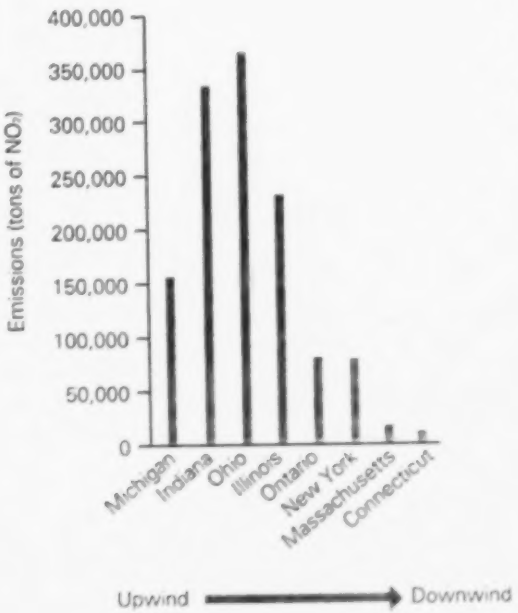
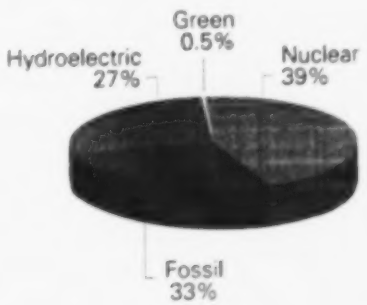


FIGURE 4
OPG's Generation Mix (2001)

Two-thirds of OPG's generation mix is virtually smog-free.

Total Generation: 122,000 net GWh

Source: OPG



[1] NOx is the abbreviation for NO, NO_2 and N_2O. OPG reports its NOx emissions as NO as required by regulations.

Emissions Versus Emission Rates

While atmospheric emissions are generally reported in tonnes[2] or thousands of tonnes, emission rates are reported in kilograms per megawatt-hour[3] (kg/MWh). While emissions are a better indicator of environmental impact, emission rates speak to the efficiency of an operation at controlling emissions. In this section our emissions are reported both ways. Emission rates facilitate year-over-year emission performance comparisons and emission comparisons between generating facilities on a unit of production basis, since electricity production varies from year to year and from station to station. This indicator will become even more important in the future as decontrol progresses and our total emissions are reduced because of the sale of fossil-fueled facilities.

[2] tonne = 1,000 kilograms

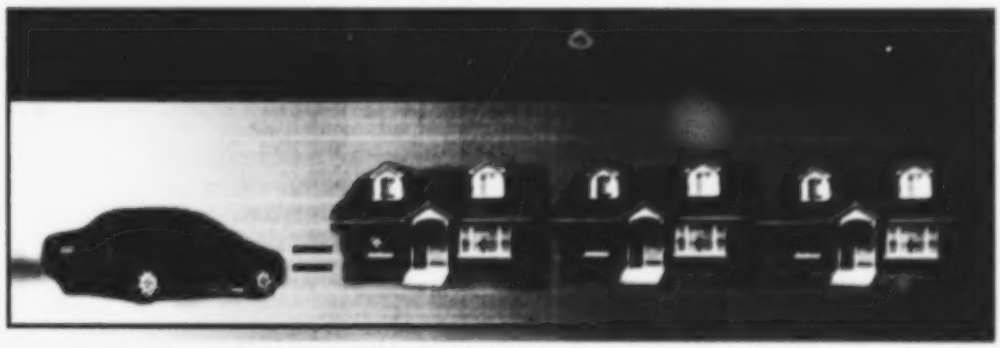
[3] megawatt-hour, approximately equivalent to the electricity used by one household in a month

NOx and SO_2, collectively known as acid gas, are largely responsible for the formation of acid precipitation that damages aquatic ecosystems, plants and structural materials such as limestone buildings and monuments. These gases are also key components in the formation of ground-level ozone, also known as smog. CO_2 is a greenhouse gas linked to climate change.

OPG has made significant progress in reducing atmospheric emissions from its fossil-fueled plants. In 2001, total fossil emissions of acid gas amounted to 193,600 tonnes, a decrease of 62% over what they were in 1983, even though electricity production from fossil stations was almost 14% higher. In this period our acid gas emission rate improved significantly from 14.5 to 4.8 tonnes/GWh.

NITROGEN OXIDES (NO_x)

In 2001, OPG fossil stations produced 5.4% less electricity than in 2000, yet NOx emissions decreased by almost 12% to 44,600 tonnes. The resulting emission rate was 1.10 kilograms of NOx emissions per megawatt of fossil electricity production, or 1.10 kg/MWh compared to 1.18 kg/MWh in 2000 and 1.86 kg/MWh in 1996. This rate will continue to decline in the future as OPG continues to install new NOx reduction technologies.



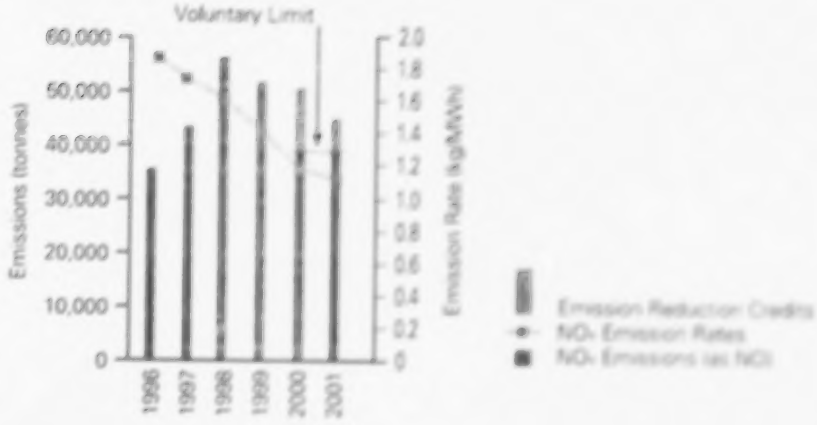
In 2001, OPG continued to honour its voluntary commitment made in 2000 not to exceed 38,000 tonnes of net NOx emissions from its fossil-fueled plants. We met this commitment by investing in technological improvements and by using 6,600 tonnes of NOx Emission Reduction Credits (ERC). These were reviewed and registered with Clean Air Canada.

Under the new Ontario Air Regulations, Ontario businesses are allowed to use ERC created by U.S. emitters from New York, Pennsylvania, New Jersey, Delaware, District of Columbia, Maryland, West Virginia, Kentucky, Ohio, Michigan, Indiana, Illinois and Wisconsin. This gives Ontario the unique opportunity to encourage emission reductions below regulatory requirements from sources that do not fall within Ontario's jurisdiction, but do affect our airshed. Since about 50% of Ontario's acid rain and smog-causing pollutants are blown in by prevailing winds from the United States, Ontario's emissions reduction trading system has the potential to significantly improve air quality in the province.

By normalizing production levels, emission rates are true indicators of progress. Figure 5 illustrates how OPG's NO_x emission rates have steadily declined since 1996. This is due to our investments in technologies to optimize the conditions under which fuel is burned. These include continuous emission monitors, smart computer controls, low-NO_x burners and the conversion of oil-burning units to also burn natural gas. The investments totalled $90 million between 1999 and 2001.

FIGURE 5
NO_x Emissions and NO_x Emission Rates for OPG Fossil Generation (1996-2001)

Source: OPG



Source of Emission Reduction Credits (ERC)

During the summer of 2001, three-quarters of all cars in southern Ontario used gasoline containing low NO_x automotive fuel additive, resulting in 10% NO_x reduction in these automobile emissions. All 1,393 tonnes of NO_x ERC created by this initiative were purchased by OPG. Other sources of ERC include internal energy efficiency savings and low-emission technologies installed at non-OPG facilities located upwind in our airshed.

In 2001, we completed the installation of low-NO_x burners on two units at Lambton GS and two units at Lakeview GS. These technologies will reduce NO_x emissions from these units by 25% and 50% respectively.

In 2001, OPG began work to install state-of-the-art Selective Catalytic Reduction (SCR) technology on two units at Lambton and two units at Nanticoke. This quarter-billion-dollar investment will further reduce the NO_x emissions from these units by 80% or 12,000 tonnes per year by the end of 2003 – the equivalent of taking 600,000 vehicles off the road. The schematic in Figure 6 illustrates SCR post-combustion NO_x removal technology.

The first SCR unit at Lambton is scheduled to go into service by year-end 2002. Two others will be brought on-line by mid-2003 and the fourth unit by year-end 2003. All four units will be in place in time to reduce emissions for the 2004 smog season, and will make a significant contribution toward achieving the targets set out by Ontario regulations and the Canada-U.S. Ozone Annex Agreement.

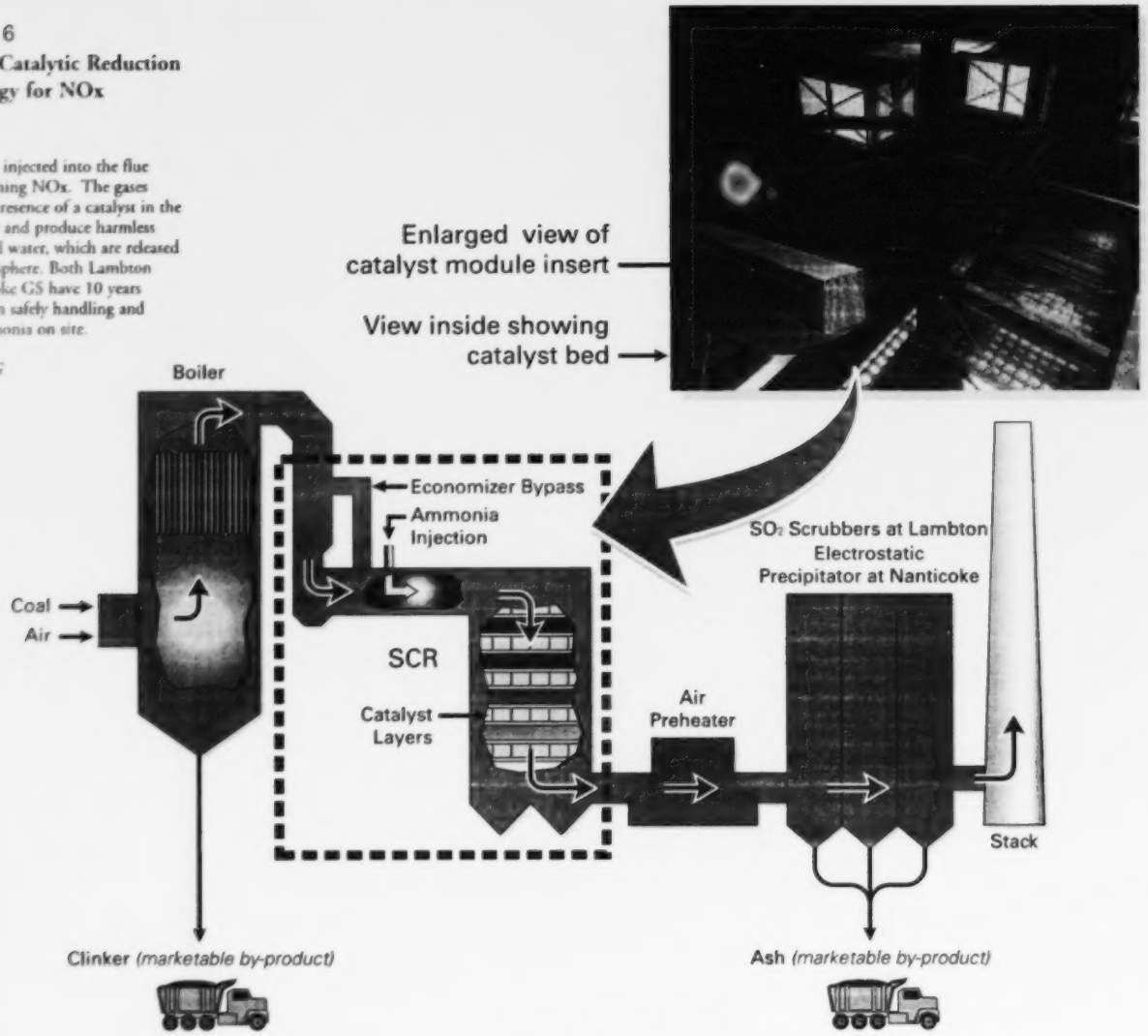
The emission reductions made possible by the SCRs will build on the emission reduction initiatives already completed at Nanticoke, including the use of low sulphur coal. We are also pilot testing at one unit newer generation low-NO_x burners considered to be state of the art, over fire air to reduce NO_x in the boiler, plus additional combustion improvements that have resulted in a 30% reduction in NO_x emission rates from one of the non-SCR units where they have been installed.

FIGURE 6

Selective Catalytic Reduction Technology for NOx Removal

Ammonia is injected into the flue gases containing NOx. The gases mix in the presence of a catalyst in the SCR reactor and produce harmless nitrogen and water, which are released to the atmosphere. Both Lambton and Nanticoke GS have 10 years experience in safely handling and storing ammonia on site.

Source: OPG



New Air Regulations

In 2001, the Province enacted new regulations that will regulate NOx and SO_2 emissions from Ontario power plants beginning in 2002, and allow for the trading of emission allowances and Emission Reduction Credits among participants in the electricity market and industrial sector. For more information about these regulations, please refer to the Ontario Ministry of Environment and Energy Web site at **www.e-laws.gov.on.ca/search_E.asp?lan=en** and then click on the hotlink called "specific regulation".

FOSSIL FLEET COMPARISONS

OPG's fossil stations compare favourably against other stations emitting into Ontario's airshed. This can be illustrated by comparing the environmental performance of OPG's fossil fleet against those of other electricity generators in Ontario's airshed. The analysis is based on 2000 data.

Relative to the fossil-fueled plants of 25 U.S. electricity generating companies operating in Ontario's airshed, OPG ranked 12th in terms of total NOx emissions and 13th in terms of total SO_2 emissions. OPG's fossil fleet ranked 10th overall on the basis of total electricity generated. Figures 7 and 8 compare OPG's NOx and SO_2 emission levels with these 25 U.S. generators on a company by company basis.

With regard to NOx emission rates, OPG's fleet outperformed 14 of the 25 U.S. generators. The installation of SCR technology at Lambton and Nanticoke will further reduce OPG's NOx emissions and improve its emission rates. When SO_2 emission rates are compared, OPG's rate was better than that of 15 of the U.S. generators.

FIGURE 7

2000 NOx Emissions for Major Companies with Fossil Generation in Ontario's Airshed

Source: Adapted from Benchmarking Air Emissions of the 100 Largest Electric Generation Owners in the U.S. – 2000 [Natural Resources Defense Council (NRDC), Coalition for Environmentally Responsible Economies (CERES), Public Service Enterprise Group (PSEG)]

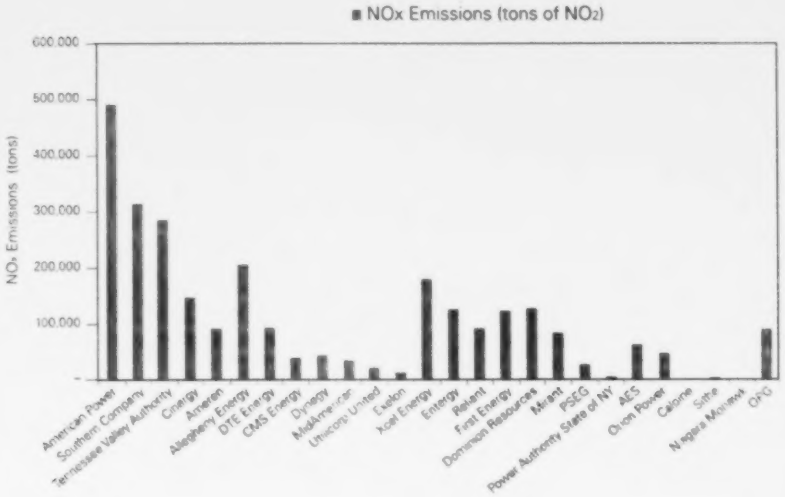
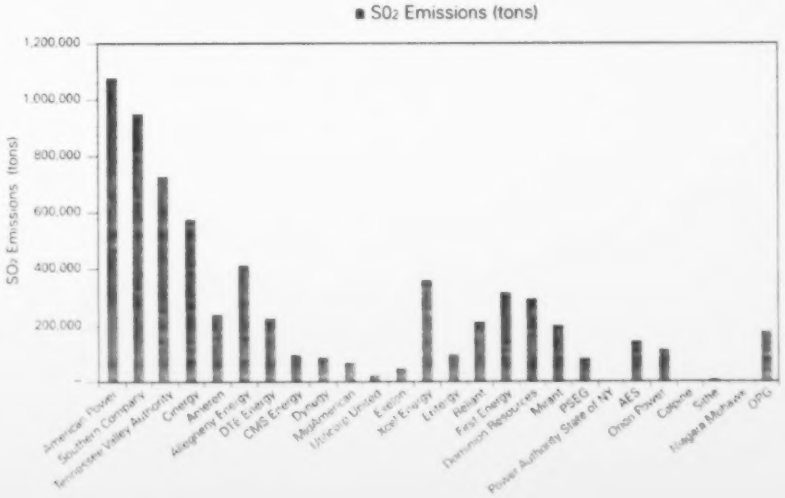


FIGURE 8

2000 SO_2 Emissions for Major Companies with Fossil Generation in Ontario's Airshed

Source: Adapted from Benchmarking Air Emissions of the 100 Largest Electric Generation Owners in the U.S. – 2000 [Natural Resources Defense Council (NRDC), Coalition for Environmentally Responsible Economies (CERES), Public Service Enterprise Group (PSEG)]



"Mow Down Pollution"

A new program launched by OPG, the Clean Air Foundation, Home Depot and Black & Decker aims at improving air quality by rewarding those who trade in their old, gasoline-powered mowers for new electric or push mowers.

BikeShare Promotes Sustainable Transportation

OPG is the lead corporate sponsor of this innovative bicycle-lending program aimed directly at reducing air pollution in the Toronto area. BikeShare promotes the use of bicycles instead of cars, the principal source of Toronto's air quality concerns.

Clean Air Commute

More than 1,000 OPG employees took part in this week-long event that promotes public transit, car pooling and alternative transportation to and from work. OPG employees avoided the equivalent of 24 tonnes of emissions. All 140 participating workplaces avoided a total of 285 tonnes of emissions.

SULPHUR DIOXIDE (SO_2)

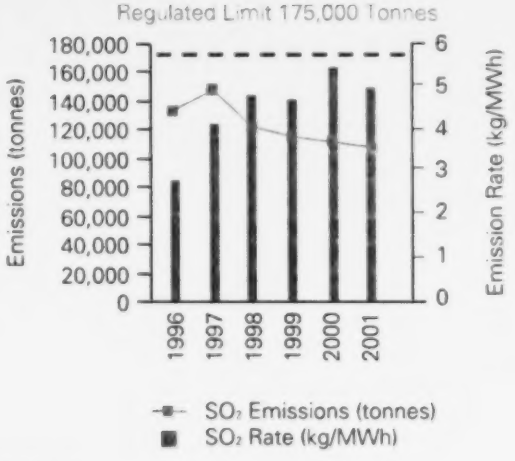
OPG's six fossil-fueled stations are the primary source of the company's SO_2 emissions, and account for approximately 12% of the SO_2 emissions generated in Ontario's airshed, based on 1999 data from the Ministry of the Environment.

In 2001, OPG fossil stations emitted 149,000 tonnes of SO_2, down from 164,100 tonnes in 2000. This decline is due to lower fossil generation rates in 2001 and OPG's ongoing efforts to reduce SO_2 emissions. This is the fifth straight year in which OPG's SO_2 emission rates have declined (see Figure 9).

OPG's fossil-fueled plants have bettered U.S. EPA SO_2 requirements for years. OPG's SO_2 emission rates are among the lowest in its airshed due to its use of low-sulphur coal, the installation of SO_2 scrubbers at Lambton GS, the conversion of Lennox GS to burn natural gas in addition to oil, and more recently because of an innovative coal grinding and blending process (selected bunkering) implemented at Nanticoke GS. This coal management process provides for the milling of different types of coal separately prior to blending them into fuel. More efficient milling by the pulverizers, which are adjusted to the hardness of each coal rather than to a blend, results in better performance. Better performance means higher unit output and lower emissions.

FIGURE 9
SO_2 Emissions and SO_2 Emission Rates for OPG Fossil Generation (1996-2001)

Source: OPG



GREENHOUSE GASES (GHG)

The primary greenhouse gas emission resulting from OPG's operations is CO_2. In 2001, OPG emitted 37 million tonnes of CO_2. This is down from the preceding year, mostly because of lower generation from our fossil stations. There is no commercially available technology to reduce or capture CO_2 emissions from the burning of fossil fuels.

Greenhouse gas emissions contribute to global warming. Based on 1999 data, total CO_2 emissions in Canada in that year were 700 million tonnes, of which Ontario contributed 195 million tonnes or 28%. The electricity sector in Ontario, primarily OPG, accounted for 17% of GHG emissions in Ontario and 4.6% of Canada's total CO_2 emissions.

Canada has signed but not yet ratified the Kyoto Protocol. National and international initiatives to reduce greenhouse gas emissions are currently under negotiation and may result at some point in the future in the introduction of regulatory limits on greenhouse gas emissions.

Consistent with the United Nations Framework Convention on Climate Change, OPG voluntarily committed to stabilize net emissions of greenhouse gases to levels equivalent to the 1990 baseline beyond 2000. OPG's strategy for managing GHG emissions is based on avoiding and reducing these emissions from our facilities and removing CO_2 from the atmosphere. We will use every option to meet our target, including nuclear energy, energy efficiency improvements, emissions trading, green energy and carbon sequestration. In 2000, OPG met this commitment by using 12.6 million tonnes of ERC to offset its CO_2 emissions.

In 2001, OPG reconfirmed its stabilization target while extending the time frame during which emissions above the 1990 baseline level will be offset with CO_2 Emission Reduction Credits to the end of 2007. The true-up period was changed for two reasons: to allow OPG to focus its ERC investments on new, innovative and cost-effective greenhouse gas reduction projects, and to ensure that all ERC meet the rules for international and domestic GHG emissions trading that are currently being developed.

In 2001, the gap between gross CO_2 emissions and the 1990 baseline was 11 million tonnes. OPG has to date acquired ERC equivalent to 3.5 million tonnes of CO_2 and used them to offset a portion of its emissions. These credits were generated by projects that destroy methane or sequester CO_2.

OPG is committed to supporting international efforts to address climate change and we will continue to do our share to reduce GHG emissions as decontrol of the Ontario electricity sector progresses. Our commitment is demonstrated in the following initiatives and achievements:

- Electricity production from OPG's fleet of nuclear generating stations is one of our most significant strategies to reduce GHG emissions. For example, the return to service of Pickering A Nuclear Station when completed in 2004 has the potential to displace about 13 million tonnes of CO_2 each year, and further reduce acid gas emission rates.

- For the second consecutive year, OPG's 2000 Greenhouse Gas Action Plan was designated "Gold Champion Level Reporter" by Canada's Climate Change Voluntary Challenge & Registry (VCR). OPG is also a member of the VCR Board of Directors and the Champions in Action initiative (see our Web site at **www.opg.com/envComm/E_GasRep2001.pdf**).

- We added 10 MW of green power to our energy mix in 2001. Our plan is to expand our Green Power offering to 500 MW by 2005 (see Green Power, page 44).

- OPG also sponsors a number of research programs established to develop technologies that will reduce emissions from coal combustion and advanced emission-free electricity generation. These include research into high-efficiency, zero-emission coal technologies with the Zero Emission Coal Alliance (see sidebar on next page) and GHG capture and sequestration in deep-ocean aquifers.

- An award-winning energy efficiency program that since its inception in 1994 has saved 2,370 GWh of electricity and displaced about 2.7 million tonnes in total of CO_2, NOx and SO_2 emissions.

The Nuclear Advantage

Ontario's nuclear stations provide important environmental benefits for the province. Since 1971, they have helped avoid more than a billion tonnes of greenhouse gas emissions, and millions of tonnes of the emissions that contribute to smog and acid rain. This compares favourably to the major supply alternative and most economic option of the past three decades, coal-fired generation. Because of these impressive results, nuclear power will continue to play a major role in meeting Ontario's future electricity needs.

Our nuclear stations together with our hydro-electric facilities account for over 70% of all our generation for the last five years.

- A biodiversity and carbon sequestration program expected to offset 900,000 tonnes of CO_2 over the lifetime of 1.6 million trees and shrubs being planted in southern Ontario by 2005.

OPG is a member of the Business Environmental Leadership Council of the Pew Center on Global Climate Change, which is comprised largely of Fortune 500 corporations that are working together to address issues related to climate change. OPG is also a member of the Environmental Defense Partnership for Climate Change, comprised of seven companies committed to reducing GHG emissions and reporting publicly on their progress.

In 2001, OPG's GHG emissions target and strategy were benchmarked against those of other members of the Pew Center on Global Climate Change. The study concluded that "OPG can be considered among the leaders of large corporations that have voluntarily adopted GHG emissions reduction targets." The study further stated that OPG's target is well-defined, credible and linked to the international and domestic climate change negotiation process, and that its implementation plan is clear and has management support.

MERCURY EMISSIONS

According to Ministry of the Environment data for 1999 atmospheric emissions of mercury from OPG, coal-fired stations accounted for about 23% of Ontario-based emissions (see OPG NPRI Emissions to air, Appendix B, page 56). Other sources included incinerators, foundries, smelters, miscellaneous industry, agriculture and transportation.

Mercury emissions are an environmental and health issue. Initiatives are underway in both Canada and the United States to assess and regulate mercury emissions from the electricity generating sector. There is considerable uncertainty about the specific standards that will be established because there is no commercially available technology to uniformly control mercury emissions to anticipated limits. OPG has been actively involved in researching and funding the development of mercury emission measurement, the science related to the fate of mercury in the environment and control technologies. OPG supports the development of standards for mercury emissions, and will continue to be actively involved in work underway to develop such standards.

OPG also continues to work in partnership with government, stakeholders, academics and industry in addressing mercury emission issues. Examples of some of OPG's partnerships include:

- Co-funding of research with the U.S. Department of Energy and other U.S. utilities to address the complexities of removing extremely low concentrations of mercury from flue gas. The three-year program will develop, test and evaluate cost-effective mercury control technologies.

- Partnering with the Canada Centre for Mineral and Energy Technology (CANMET) in a study to assess the effect of additives on mercury capture.

- Partnering with the Ontario Ministry of the Environment and Environment Canada in funding a pilot project, coordinated by Pollution Probe, to reduce mercury in the environment. The MERC Switch-Out program will seek to prevent the release into the environment of 200 kg of mercury from more than 200,000 switches in scrapped cars about to be crushed for recycling.

Future Solutions – Clean Coal Technology

Coal is the world's most abundant fossil fuel. It is unrealistic to expect that it will soon disappear as a source of energy. But inefficient coal-fired plants are becoming a thing of the past. OPG has supported the Zero Emission Coal Alliance (ZECA), an international consortium devoted to the generation of cost-efficient, emission-free coal-based power.

The process being patented by ZECA in conjunction with the Los Alamos National Laboratory in the U.S. converts coal and water into hydrogen that can be used to generate electricity in a fuel cell. CO_2 emissions are converted into an inert rock-like material.

ZECA is targeting to have a pilot plant constructed by about 2010.

OTHER CONTAMINANTS

Appendix B on page 56 includes OPG's National Pollutant Release Inventory (NPRI) emissions to air, water and land for the years 1999 and 2000. Appendix B also includes voluntary Accelerated Reduction/Elimination of Toxics (ARET) emissions to air and water for the 1993 base year and 1999 and 2000. The generally higher levels of some emissions in 2000 were a direct result of OPG's increased use of fossil fuels to meet electricity demand.

Based on data in the NPRI, compiled by Environment Canada, **no** OPG plant is ranked among the 100 facilities in Ontario that release the largest amounts of known carcinogens to the air and water.

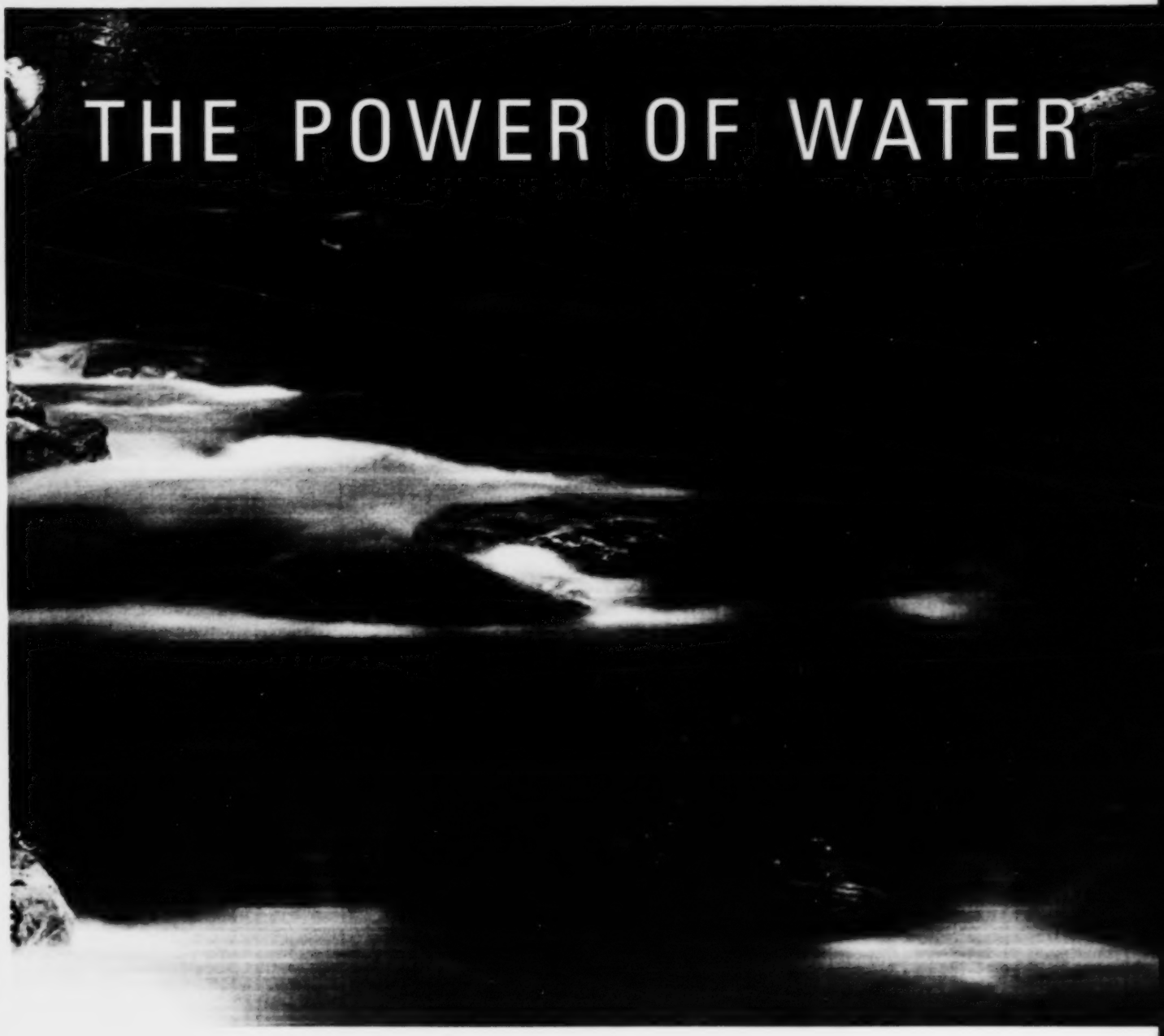
The program tracks 117 toxic substances. Thirty of these substances persist in the environment and/or may accumulate in living organisms. OPG emits nine of the 117 contaminants in reportable amounts under ARET; eight of them are considered to be persistent and/or bioaccumulative.

Ozone-depleting substances (ODS) are chemicals that, when released to the atmosphere, can destroy the earth's protective layer of stratospheric ozone. ODS include refrigeration gases (e.g., chlorofluorocarbons or CFCs) and fire-extinguishing agents (e.g., Halon) used in computer rooms and electrical applications. In 2001, OPG completed the phase-out of all Halon fire-extinguishing systems and finalized its plans to retrofit or replace chillers containing CFCs by 2015.

RADIATION EXPOSURE TO THE PUBLIC

Very low levels of radioactivity are released from the operation and maintenance of our nuclear reactors. The levels are minimized by the design of the plants themselves, which include multiple passive barriers including a one-kilometre exclusion zone separating the public from the reactor building. Active barriers such as air dryers are used to remove tritium from air and filters to capture particulate matter and iodine. Operating procedures are also in place to protect the health of employees and the public.

Dose to Public information for each facility is provided in Appendix A on page 51. The "2001 Actual" figure is an estimate of the radiation dose people would receive if they lived just outside the station boundary 24 hours a day, drank local water and milk, and ate local fish and produce. The dose is measured in microsieverts (μSv), an international unit of dose. By way of comparison, the average Canadian receives about 2,000 μSv a year from natural sources such as cosmic rays and radon in the soil. In 2000, new technology was introduced at the Pickering nuclear site boundary to more accurately measure the noble gas component of public dose values. More accurate measures show that actual emissions are lower than previously reported. The radiation levels reported by both the Darlington and Pickering Generating Stations are well below the limit of 1,000 μSv set by government.



THE POWER OF WATER

Water is an important component of OPG's sustainable development portfolio. It is a large-scale, emission-free, renewable source of hydroelectric power and OPG's lowest-cost source of electricity. Water is also necessary for generating nuclear and fossil-fueled electricity.

Water is important for electricity generation, but it is irreplaceable in sustaining life on the planet. That is why OPG applies high standards in managing its water resources. No other resource can replace it.

WATER USE IN HYDROELECTRIC GENERATION

In 2001, OPG generated 33,700 GWh of renewable hydroelectric power, 2% less than in 2000 and 5% less than in an average year. The decline is attributable to generally below-average production from stations on the Great Lakes because of lower water levels.

A very wet fall season in the eastern part of the province and a wet year in the western part of the province, as well as a minimal number of unplanned outages for maintenance and repairs, made up for some of the less-than-normal production on the Great Lakes. Our reliable performance results from significant investments in improving facilities in recent years and sound maintenance practices. Experts predict that many months of sustained, above-normal precipitation will be needed to bring levels in the Great Lakes back to their historical averages.

For more information about water flows, please refer to OPG's Web site, **www.opg.com/envComm/wateruse**.

Fish Management on the Nipigon River

The Nipigon River is the largest waterway feeding the Great Lakes, entering Lake Superior just east of Thunder Bay. OPG has three hydroelectric facilities on the Nipigon – Pine Portage, Cameron Falls and Alexander – which harness this exceptional source of renewable energy. OPG and the Ministry of Natural Resources have co-operated in developing a management plan for Lake Nipigon and the Nipigon River, and as part of the plan, OPG voluntarily reduces electricity generation during fish spawning to protect the spawning beds.

WATER USE IN FOSSIL AND NUCLEAR GENERATION

OPG's fossil and nuclear stations use water for cooling, maintenance and steam production. Between 1998 and 2000, the volume of water used by OPG's operating nuclear facilities has remained constant at 6,500 million cubic metres. During this same period, water use at our fossil stations varied from 4,800 million cubic metres in 1998, to 4,600 million cubic metres in 1999, to 6,200 million cubic metres in 2000. The increase in 2000 largely reflects a 17% increase in fossil electricity production over the previous year.

Almost 100% of the water used by fossil and nuclear stations is used for cooling purposes. It passes through the station only once and is returned to its source at a slightly higher temperature. Acceptable temperatures for discharged cooling water are regulated by the Ministry of the Environment.

The water that OPG uses for maintenance purposes and steam production is less than 1% of the company's total water use. The water that OPG uses for these purposes is in contact with contaminants and is treated prior to discharge. The contaminant levels in effluents are regulated by the Municipal Industrial Strategy for Abatement (MISA) Regulation, site-specific Certificates of Approval and Canadian Nuclear Safety Commission (CNSC) regulations. OPG emissions to water are listed in the NPRI and ARET tables provided in Appendix B on page 56.

WATER MANAGEMENT PLANNING

JOURNEY TO SUSTAINABLE DEVELOPMENT

In 2001, the Ministry of Natural Resources (MNR) introduced Water Management Planning to Ontario. Water Management Planning is a consultative process that will bring

Outstanding Stewardship Award

OPG has received its second Outstanding Stewardship Award from Washington-based National Hydropower Association for its contribution to the Madawaska River Water Management Review. The award recognizes OPG's role in the 1997-99 tripartite consultation among OPG, the Ontario Ministry of Natural Resources, and the public.

The participants co-operated in developing a new water management and operating plan for the river, where OPG operates seven water-storage and generating plants. The award recognized specific actions by OPG to create fish spawning beds, restock local lakes with native fish, and a management plan to balance the needs of the users of the river. The Madawaska is one of the continent's finest canoeing and kayaking rivers. The Madawaska River Review provided a co-operative framework for sector-utility problem-solving that is unique in Ontario. The resulting partnership will be a model for other watershed reviews in the province.

For more information about the Madawaska River Management Review see **www.opg.com/envComm/madawaska/MadRiverTOC.asp**.

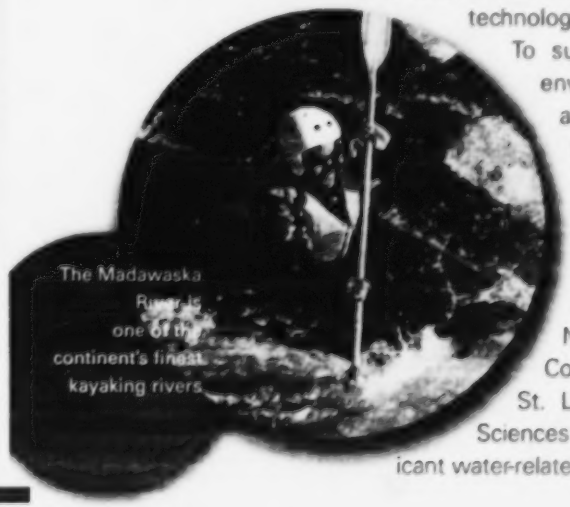
together the MNR, OPG and local stakeholders to plan sustainable solutions for water resources in the Province. OPG's award-winning Madawaska River Management Review served as a model for this initiative. The MNR expects to complete Water Management Plans for 13 Ontario river systems by March 2004. The plans will address the issues of each unique water system, including ecosystems, watersheds and resource use, and will ensure long-term public involvement in river management.

OPG fully supports Water Management Planning, and has incorporated this process into its long-term business plans. The process provides guidelines which will assist OPG in balancing each region's unique social, cultural and recreational interests with OPG's business mandate to generate safe, reliable and economically competitive electricity. Water Management Planning will help OPG to be more effective in prioritizing its strategies to preserve the long-term sustainability of Ontario's water resources. On a region by region basis, OPG balances its investments on a priority basis, whether in aquatic ecosystems or biological diversity, scenic enhancements to promote recreational tourism, or public awareness campaigns that encourage respect for Ontario's water resources.

WATER MANAGEMENT PRIORITIES

OPG endeavours to offset the impact of its hydroelectric operations on water resources. We make every effort to protect fish spawning habitats from disruptions in water levels and flows that are sometimes caused by hydroelectric facilities. These same water level disruptions may have beneficial effects for other constituents of the water system, because, for example, they may prevent flooding of shoreline residences or reduce erosion on riverbanks during spring runoff. OPG welcomes the clarity that Ontario's Water Management Planning process can bring to decision-making and the prioritizing of sustainability issues.

AQUATIC RESEARCH



The Madawaska River is one of the continent's finest kayaking rivers.

OPG endeavours to continually improve the methods and technologies that it uses to generate electricity. To support this goal, we fund a number of environmental research projects, including an Industrial Research Chair in Watershed Biogeochemistry at Trent University in Peterborough, Ontario, to study the effects of acid rain and the influence of climate stresses on watersheds.

For the past six years, OPG has supported a Natural Sciences and Engineering Research Council (NSERC) Chair in Ecotoxicology at the St. Lawrence River Institute of Environmental Sciences. The institute is studying a number of significant water-related issues, including the effects of water-level

Niagara Greening and Regeneration Strategy

The Niagara Region's significant natural beauty has made it an important tourist destination in Ontario. For OPG, the region is also a major source of low-cost, renewable electricity. OPG's six facilities in the Niagara Region account for more than 30% of the company's total hydroelectric capacity. The integrated greening strategy that OPG is carrying out at these facilities and properties will enhance the social, recreational and environmental advantages of the Niagara Region. The strategy calls for regenerating and improving all six properties, and includes systematic assessment and prioritization of environmental actions.

variations over time which will support the development of a baseline of ecological data for a changing river environment; the sources, transport and fate of pollutants and pathogens in rivers; and innovative and effective community-based programs to restore the benefits of a healthy river ecosystem. Through its River Restoration Council, the Institute is implementing a remedial action plan in the Cornwall-Massena area, creating artificial fish spawning habitats in the St. Lawrence River and researching the diversity of area wetlands. It is also working with OPG's R.H. Saunders Generating Station to monitor zebra mussel population densities in the river.

OPG also sponsors an NSERC industrial PhD scholarship at Trent University to study the distribution and habitat requirements of Redhorse Sucker species in the Trent and other eastern Ontario rivers. This is part of a partnership with the Ministry of Natural Resources and Parks Canada to investigate the fragmentation effects of dams on fish communities in rivers.

Since 1999, OPG (Nanticoke) has supported studies under a Centre for Research in Earth & Space Technology (CRESTech) program by the Wetland's Research Centre (University of Waterloo) on the function of engineered wetlands for waste-water treatment.

In 1999, the MNR and OPG sponsored an independent water management study of the Upper Mattagami Watershed. The results of the study were tabled in 2000. They concluded that the river system upstream of OPG's Sandy Falls Generating Station in the Timmins area is well managed and requires very little improvement. OPG, MNR and the Mattagami Region Conservation Authority will establish a Water Management Committee in 2001 that will continue to monitor the environmental health of the Mattagami River Watershed.

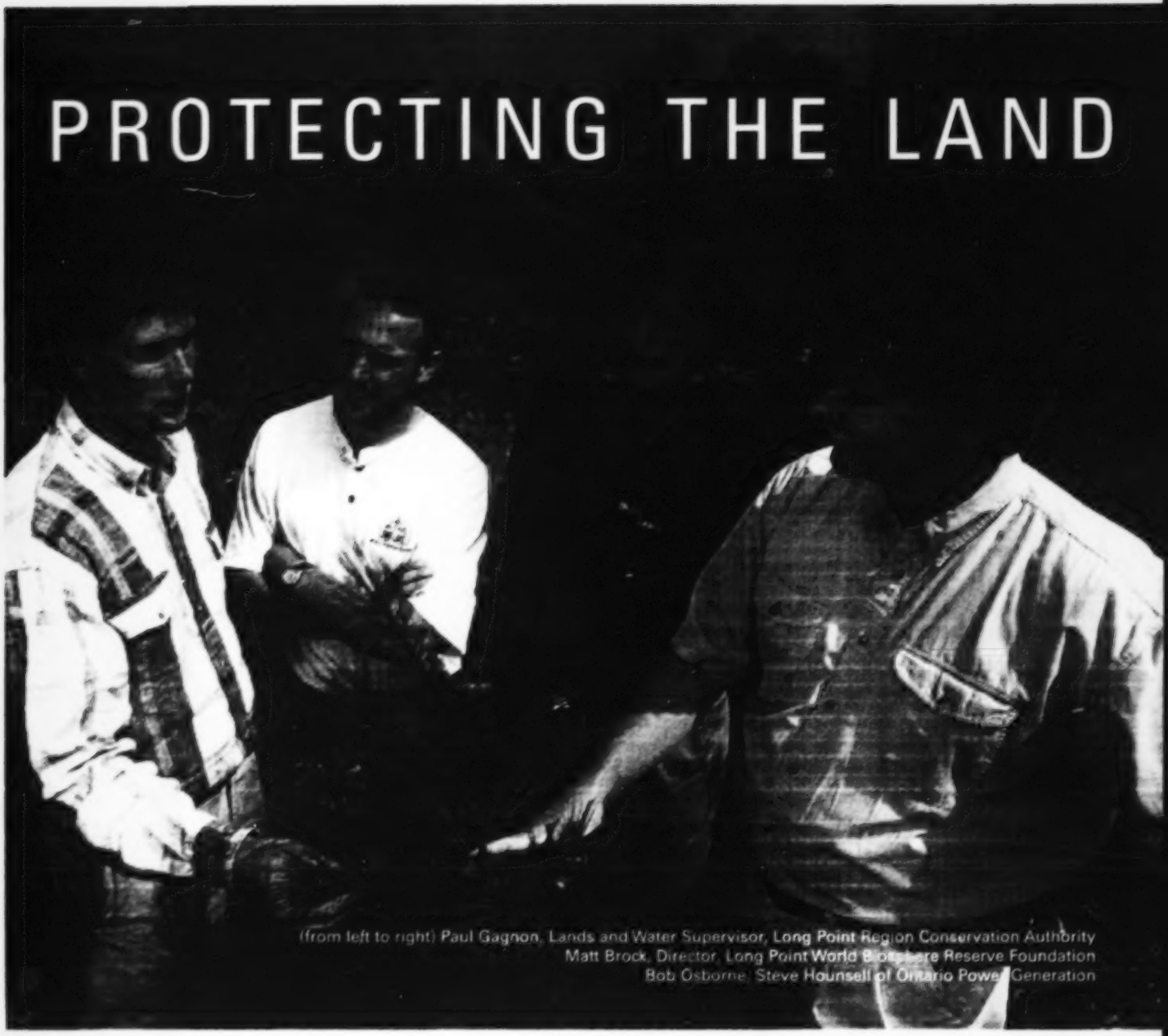
ZEBRA MUSSEL CONTROL

In 1990, Ontario Hydro initiated a research program examining alternative ways to reduce the use of chlorine to control zebra mussels. Over 20 different technologies have been investigated since the start of the program. The research has demonstrated that so far no single technology can safely and effectively replace the use of chlorine at OPG generating stations. Successful protection of the stations from infestation by zebra mussels will require a variety of control strategies.

Energy Boosters

April showers bring May flowers...and freshets, the fast-flowing water that is released when accumulated ice and snow melt in the springtime, often accompanied by rain. For a hydroelectric generator, freshets can be a welcome energy boost, if they are harnessed in time. The objective is to capture the full potential of the freshet to replenish storage basins, and to extract every possible kilowatt-hour of low-cost energy from the rapidly flowing waters. From a water management perspective, OPG has a responsibility to manage this natural abundance with due regard for its astonishing power to damage and destroy. OPG's water resource engineers help to minimize flooding by maintaining reservoirs and headponds at safe levels. In northern regions of the province, OPG adjusts water levels and flows, giving fish that extra help they need during spring spawning runs.

PROTECTING THE LAND



(from left to right) Paul Gagnon, Lands and Water Supervisor, Long Point Region Conservation Authority
Matt Brock, Director, Long Point World Biosphere Reserve Foundation
Bob Osborne, Steve Hounsell of Ontario Power Generation

LAND & BIODIVERSITY CONSERVATION

The three aspects of land management and conservation that are most closely associated with OPG's operations are land assessment and remediation, waste management, and biodiversity conservation. Our strategies to conserve and enhance ecosystems and biodiversity in Ontario are described in this chapter.

LAND ASSESSMENT AND REMEDIATION

ASSESS AND REMEDIATE HISTORICAL SITE CONTAMINATION

OPG introduced a program in 1997 to assess and remediate historical contamination on properties occupied by its generating facilities, in response to a Director's Order from the Ministry of the Environment. OPG's first Site Assessment Plan, filed with the Ministry in 1998, identified 50 priority sites with known or potential contamination. The contaminants of concern were fuel oil, transfer oil, waste lubricants and tritium.

OPG reduced the number of remaining priority sites to 20 in 2001 – 15 of the 20 were covered by the original Director's Order, and the remaining five were identified by a voluntary site assessment program that OPG conducted.

The status of work on the 20 sites is as follows:

- Fourteen sites assessed: four required no further work; one remediation complete; nine remediations in progress;
- Six sites: assessments nearing completion.

The assessments of all 20 priority sites, and any required remediation, will be completed by 2003 – with the exception of one site where remediation is in progress and will be completed by 2005. Any remediation required at non-priority sites will also be completed by 2005.

ELIMINATE PCBs

OPG is following through on its commitment to eliminate 81% of in-storage PCB waste and in-service high-level PCBs by year-end 2005, and the remainder of in-service high-level PCBs by year-end 2015. OPG has reduced its inventory of in-service PCBs and PCB wastes by about 62% since 1994. In 2001, OPG shipped 189 tonnes of PCB waste for destruction. As of December 31, 2001, our PCB waste inventory was 1,542 tonnes, down from 4,123 tonnes in 1994.

WASTE MANAGEMENT

RECYCLE AND REUSE CONVENTIONAL WASTES

OPG is an industry leader in recycling and reusing waste products that would otherwise be sent to landfill, such as construction and demolition waste, paper products, glass, aluminum and polystyrene. In 2001, Darlington and Pickering nuclear stations, respectively, diverted from landfill 92% and 68% of their conventional wastes. OPG's Investment Recovery and Waste Management Services (IRS) has a mandate to *maximize* the recycling of wastes across the company. In 2001, IRS generated about $2.7 million in revenue from the sale of surplus equipment and materials.

DIVERT BY-PRODUCTS FROM LANDFILL

In 2001, OPG diverted from landfill and sold 799,000 tonnes of gypsum and fly ash, which are by-products of coal combustion. This quantity represents 49% of OPG's total accumulation of these by-products.

MANAGE LOW- AND INTERMEDIATE-LEVEL RADIOACTIVE WASTES

OPG's Darlington and Pickering nuclear stations continue to reduce their low- and intermediate-level radioactive wastes through careful waste separation. These facilities produced 5,299 cubic metres of low- and intermediate-level radio-active wastes in 2001 compared to 4,774 cubic metres in 2000. The increase was due in part to waste associated with the Pickering A restart project. These radioactive wastes are transported to the Western Waste Management Facility, where they are stored pending destruction and disposal. At year-end 2001, the Western Waste Management Facility contained about 15,114 cubic metres of low-level waste and 8,239 cubic metres of intermediate-level waste.

MANAGE USED NUCLEAR FUEL

Safety is OPG's number one priority in managing used fuel. The Canadian nuclear industry as a whole is internationally recognized for its high safety standards and performance.

Wet and dry storage are a vital part of OPG's nuclear waste management program. Both are proven, safe methods of storing used nuclear fuel. When used fuel bundles are removed from a nuclear reactor, they are taken immediately to on-site, water-filled pools to cool and shield them until their radioactivity declines. After about 10 years in water storage, the used fuel can be transferred safely to large steel-and-concrete containers that are approved for storage by the Canadian Nuclear Safety Commission. OPG produces a small volume of used fuel relative to the quantity of nuclear energy it generates. The used fuel produced each year at Darlington and Pickering A and B facilities would fit into a room measuring six metres long, six metres wide, and five metres high. OPG is conducting environmental assessments in preparation for the establishment of a dry storage facility at Darlington and an expansion of the Pickering dry storage facility, and public consultations will be an important part of this process.

Far left: Fuel bay

Left: Dry storage

The Parliament of Canada is currently reviewing legislation that would require Canada's nuclear companies to form a waste management organization (WMO). The WMO would be mandated to study alternative approaches for the long-term management of nuclear waste, conduct multi-stakeholder consultations, and make recommendations to the federal government within three years. The WMO would then be required to implement the approach selected by the federal government. OPG will co-operate fully with the government, its industry partners and all stakeholders to identify a long-term solution for nuclear waste management.

CONSERVING BIODIVERSITY

Conserving the natural biological diversity of species and habitats is critical for the maintenance and resilience of healthy, vibrant ecosystems. OPG was the first electric utility in North America, in 1995, to implement a policy on biodiversity.

Ontario is experiencing significant loss and destruction of habitats, which is contributing to the decline of species in many regions. Many of the properties on which OPG's facilities are located are significant habitats for a wide variety of birds, mammals, fish and plant life. Our goal is to ensure that our operations do not contribute to the decline of significant species or habitats deemed to be at risk. All of OPG's fossil and nuclear facilities and hydroelectric plant groups have completed assessments of significant habitats and species at risk on their sites, and have created biodiversity management plans to respond to priority issues. OPG Nuclear Waste Management Division is also partnering with Bruce Power to develop a bio-inventory that will form the baseline for a joint biodiversity program.

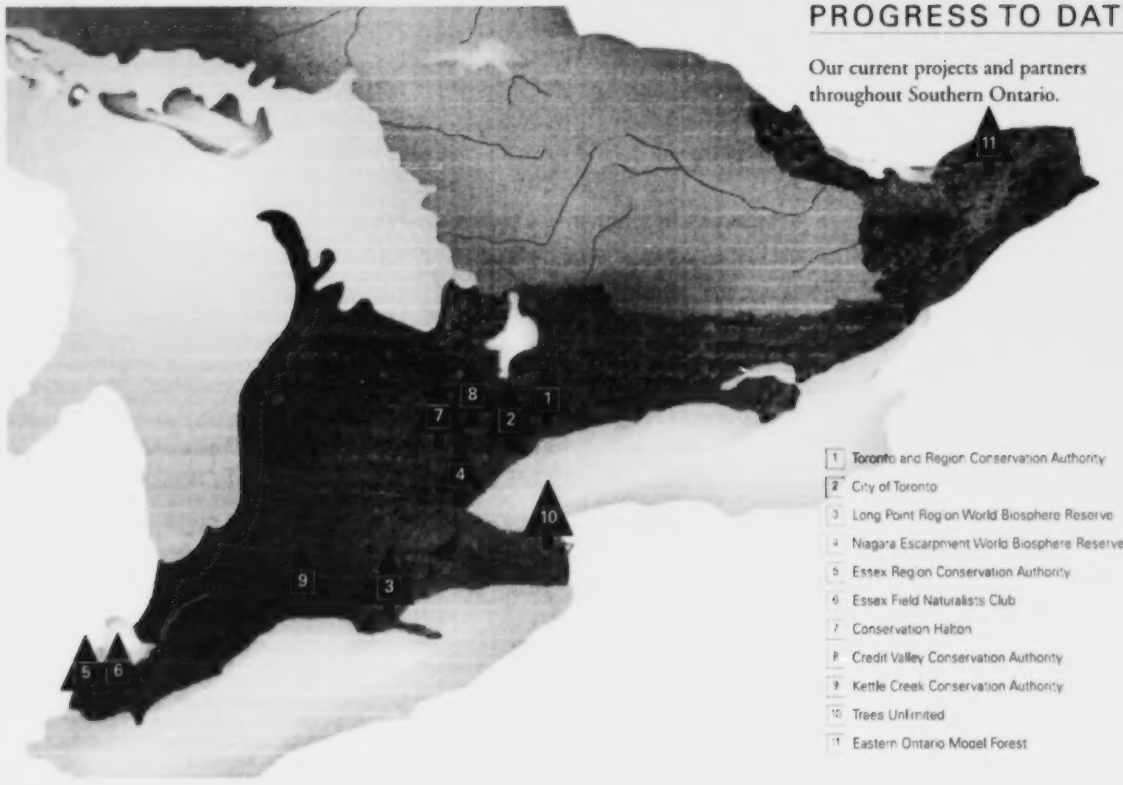
The Wildlife Habitat Council, a non-profit conservation agency in the U.S., has recognized OPG's Pickering and Darlington nuclear facilities for their achievements in biodiversity:

- Pickering Nuclear was awarded the Corporate Habitat of the Year Award for 2001 at the Wildlife Habitat Council's annual symposium in Washington D.C. Pickering was selected from among 111 facilities from around the world that have certified biodiversity management plans. Pickering was also recertified as a recipient of the National Habitat Conservation Award, in recognition of its contribution to wildlife habitat conservation and commitment to environmental stewardship.

- Darlington Nuclear was recognized by the Wildlife Habitat Council as a pioneering site for the Corporate Land for Learning "Fifty for the Future" initiative in 2001. Darlington was one of 50 corporate sites to have an active program to promote environmental education and sustainable lands. Darlington manages more than 300 hectares of wetlands, meadows and forests along an eight-kilometre stretch of Lake Ontario's Waterfront Trail, which provides habitat for almost 900 species of animals and plants. Darlington also received a Certificate of Merit from Friends of Second Marsh in 2001 for its significant contributions to wetland preservation.

PROGRESS TO DATE

Our current projects and partners throughout Southern Ontario.


1 Toronto and Region Conservation Authority
2 City of Toronto
3 Long Point Region World Biosphere Reserve
4 Niagara Escarpment World Biosphere Reserve
5 Essex Region Conservation Authority
6 Essex Field Naturalists Club
7 Conservation Halton
8 Credit Valley Conservation Authority
9 Kettle Creek Conservation Authority
10 Trees Unlimited
11 Eastern Ontario Model Forest

Nesting Sites for Black Tern

The 56-hectare wetland at Lennox GS station is an important nesting site for the Black Tern. Lennox manipulates water levels to preserve prime nesting conditions for this rare species. In 2001, the wetland was drained to improve long-term growth of wetland plants.

Other OPG facilities recognized in 2001 for their contributions to biodiversity include:

- The Niagara Plant Group was awarded a Conservation Achievement Award of Merit from the Niagara Peninsula Conservation Authority and the Conservation Niagara Foundation.

- Lennox Generating Station was named Corporate Citizen of the Year by the County of Lennox and Addington for spearheading many environmental stewardship projects. Lennox has planted thousands of trees on its property and made a multimillion-dollar investment to convert from coal to more environmentally friendly natural gas fuel. Employees at Lennox participated in a community project to create a 16-hectare waterfront park by rerouting the Loyalist Parkway.

REFORESTATION OF SOUTHERN ONTARIO

Many species in southern Ontario are at risk because of the loss and fragmentation of habitat. In 2000, OPG announced a reforestation program to restore critical habitat for species at risk. By the end of 2005, OPG will plant 1.6 million native trees and shrubs on 800 hectares, with a focus on expanding key forested areas and connecting woodland patches to help promote the recovery of declining wildlife.

OPG has co-partnered with over a dozen conservation associations to plant over 550,000 trees and shrubs on 300 hectares of land, stretching from the Eastern Ontario Model Forest, to the Oak Ridges Moraine, the Niagara Escarpment World Biosphere Reserve, and the Long Point World Biosphere, to the extreme southwestern region of the province, where forest cover is typically under 5% of the land base.

Survival of the Swamp Rosemallow

Located on the Niagara Escarpment, the DeCew hydroelectric station is in the midst of one of the most biologically diverse regions in Ontario. A biodiversity assessment by OPG in 2001 identified the presence of the Swamp Rosemallow, a provincially rare species whose occurrence is restricted to Southern Ontario. Knowing where these plants are located will help to ensure their continued protection. Other uncommon species found at DeCew, the Pin Oak and Pignut Hickory, are typical of the Carolinian zone, which refers to the habitat in the southwest region of Ontario where a warmer climate allows typically more southern species to occur. For more information on Carolinian species and sources of plants, see **www.carolinian.org**.

In 2001, the Carolinian Canada Coalition awarded its Conservation Award to OPG's reforestation program. This coalition is a partnership of public and private agencies who work co-operatively to conserve biodiversity in Canada's Carolinian life zone.

The reforestation project is also an important contributor to OPG's Greenhouse Gas Management Strategy. OPG estimates that the total tree planting will trap and offset about 900,000 tonnes of carbon dioxide over the lifetime of the trees.

A HOME FOR TALLGRASS PRAIRIE

Tallgrass Prairie covered about 1,000 km² of Southern Ontario, however less than 3% of this habitat remains, making it one of the most endangered ecosystems within Ontario. Ontario's Tallgrass Prairies support approximately 20% of Ontario's provincially and nationally rare species.

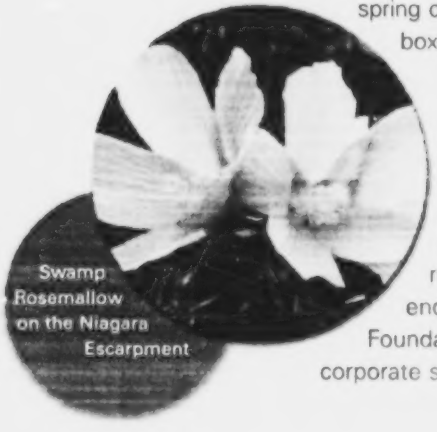
Lambton GS is in its third year of a Tallgrass Prairie restoration program. The one-hectare plot supports a variety of native plants typical of the Tallgrass Prairie that was once native to the area. Tallgrass Prairies are fire-adapted ecosystems and are dependent upon periodic fires. In an effort to mimic natural processes, Lambton conducted its first prescribed burn in 2001 to kill non-native weeds and add nutrients to the soil.

RESPONSIBLE STEWARDSHIP

Five of OPG's fossil and hydroelectric facilities conducted biological surveys in 2001: Lambton, Lakeview, DeCew, Barrett Chute and Alexander. Biological surveys are the first step in responsible stewardship of natural resources and the basis for habitat protection programs.

WHEN THE SWALLOWS RETURN TO NANTICOKE

One of Nanticoke's many biodiversity initiatives is its commitment to maintaining habitat for Eastern Bluebirds and Tree Swallows. The Eastern Bluebird in particular is at risk because of the lack of nesting sites and competition from other species. Nanticoke has installed about 50 bluebird and swallow nest boxes, and with the help of local Scouts the boxes receive a spring cleaning each year. (For more information on constructing and maintaining nest boxes, see **www.nestbox.com**.)



Swamp Rosemallow on the Niagara Escarpment

LAKEVIEW WELCOMES PEREGRINE FALCONS

For three consecutive years, a pair of Peregrine Falcons has nested on the Powerhouse at Lakeview GS in Mississauga. So far, these visits have not resulted in fledgling falcons leaving the nest. The pair's return in 2002 is encouraging. Lakeview GS employees and staff from the Canadian Peregrine Foundation are monitoring the pair and hope for better results this year. OPG is a corporate sponsor of the Canadian Peregrine Foundation.

STAKEHOLDER RELATIONS

Annalea Anema, Senior Services Clerk at Nanticoke, was just one of 95 station volunteers who participated in the Nanticoke Neighbourhood Walk.

STAKEHOLDER RELATIONS AND SOCIAL RESPONSIBILITY

The electricity industry in Ontario is changing as a result of competition in the market. Something that will not change is OPG's commitment to provide Ontario customers with continuous, cost-efficient supplies of electricity. Electricity is a critical component of Ontario's success as an economic entity and as a superior place to live. It is also the reason OPG is in business.

Gene Preston
Executive Vice President, Chief Nuclear Officer

"OPG doesn't exist in a vacuum. We're accountable to a network of stakeholders, who rightly expect us to operate according to the highest standards of safety, openness, corporate responsibility and community service."

Competition will also not change OPG's commitment to stakeholder consultation. As a large electricity generator in Ontario, OPG has learned the importance over the years of working together with constituents in an effort to find the best, sustainable solutions to balance commercial, environmental and social interests. We work closely with local communities and citizen groups to ensure their interests are respected in the operation of our facilities.

In the competitive electricity market, OPG will continue to contribute to enhancing the quality of life in the communities where we operate. This includes a commitment to safe, healthy workplaces. We are proud to have supported many valuable grassroots community campaigns and projects in the past, and we will continue to do so in the future. We are also proud of our employees, many of whom regularly distinguish themselves by voluntarily contributing their energy and expertise in their home communities.

EMPLOYEE RELATIONS

SAFETY PERFORMANCE

Safety is a top priority at OPG. We operate our plants according to the strictest standards of public and workplace safety as mandated by both federal and provincial governments and our own industry. OPG has made significant progress in the last five years toward its goal of achieving top-quartile performance in its Accident Severity Rate and All Injury Rate compared to other similar North American generators (see Figure 10). Our Accident Severity Rate performance is currently in the top quartile. More improvements are required to achieve top-quartile in our All Injury Rate (see Figure 11). In 2001, OPG received a Bronze Award of Excellence from the Canadian Electricity Association for its top quartile safety performance in 2000.

FIGURE 10
Accident Severity Rate

OPG's Accident Severity Rate ranks in the top quartile of North American utilities.

Source: OPG

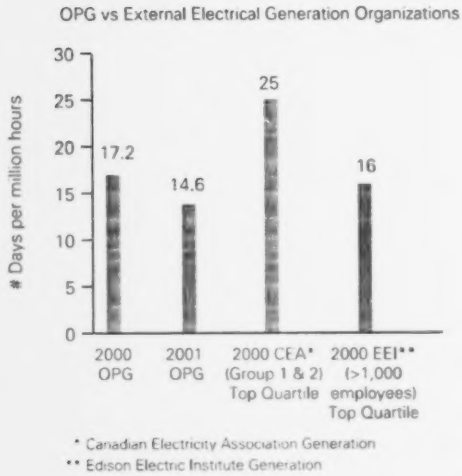
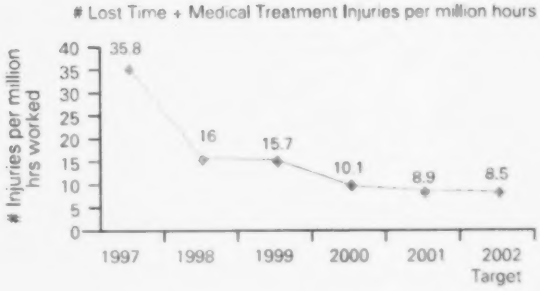


FIGURE 11
All Injury Rate (1997-2001)

Source: OPG



John Wesley Beaver Award

OPG's John Wesley Beaver Award recognizes the significant, but largely unrecognized, contribution of Native employees to the history of the electricity industry in Ontario. The award commemorates John Wesley Beaver, a former Ontario Hydro employee of Native heritage who became Operations Engineer for Northeastern Ontario. It is awarded each year to one male and one female student of Native ancestry (status, non-status, Metis or Inuit) who meet certain criteria including: enrollment in an environmental, engineering, technology or administration program; demonstrated community involvement; and commitment to the environment. The award-winners are selected by the Native Circle, a mentoring group sponsored by OPG, which provides a forum for Native employees to share issues and provide input on Native perspectives and concerns to OPG management. Award recipients in 2001 were Stephanie Byrne and Jeff Rouse.

For more information, contact the Office of Student Awards at your university or community college.

OPG's Health and Safety (H&S) Policy affirms the company's commitment to safety excellence, with accountabilities extending from the Board of Directors to the Executive Committee, led by the President/CEO, to all managers and employees. (OPG's newly revised H&S Policy is published on-line at **http://poweron.opg.com/CorporatePolicies/directors.asp**.) Company-wide, we include safety measures and targets in our business plans and Annual Incentive Plan, and site-specific safety expectations in the GoalSharing Scorecards for all unionized employees. The Health & Safety Advisory Committee and local Joint Health and Safety Committees are valuable forums where all workplace parties can work together to improve safety management within the company. OPG's "Zero Injuries – Believe It – Achieve It" campaign encourages employees to take ownership of safety issues and make safety a part of everyday life.

WELLNESS

OPG is committed to employee wellness – preventing illness, reducing sick leave use and managing the return of ill or injured employees to the workplace. Workplace committees at our plant sites and head office support programs such as health education for shift workers, site walking programs, flu shots and blood pressure clinics. Through our Employee and Family Assistance Program we offer all employees and eligible family members access to confidential advice and short-term counseling to assist in dealing with personal and family issues.

INVESTING IN OUR PEOPLE

OPG is committed to supporting an equitable and diverse workplace where everyone can realize their full potential with equal access to opportunities. Initiatives in 2001 included the creation of a Diversity function within Human Resources and a Diversity Steering Committee composed of senior management and union representatives, who provide key direction on diversity issues and programs. This is in addition to corporate and field tripartite committees that operate at a working level. OPG believes that a healthy workforce is key to the safe operation of our stations. Our programs are directed to maintaining and enhancing employee health and well-being. Other initiatives include:

- A diversity conference in 2001 that brought together 120 OPG line management, human resources and union representatives to explore strategies for strengthening diversity in OPG's workplaces and communities.
- A guidebook on accommodating disabilities, pregnancy and religion in the workplace, including practical advice for managers, supervisors and employees about hiring processes, adapting physical environments to meet special needs and education of co-workers.
- New policies and procedures on Human Rights & Harassment and Workplace Violence. In March 2002, OPG received an award from the White Ribbon Campaign for our outstanding contribution and support of the organization's campaign to "End Violence Against Women".
- Prayer/meditation rooms established at Head Office, Pickering and Darlington.

Bill Farlinger, Chairman, with "Hydrokids"

Little People, Big Hearts

The youngsters who attend our company daycare program learned an important lesson about fundraising this year: It can be an uphill climb. Twelve small but determined "Hydrokids" climbed 20 storeys to the top of OPG's corporate headquarters to raise over $1,500 for the Heart and Stroke Foundation. According to the Foundation, the five- to six-year-old "Hydrokids" were their youngest fundraisers ever.

The Hydrokids daycare program has been open to children of company employees and the community since 1985. As well, OPG supports Bright Lights Childcare Centre, a parent-run daycare at the Kipling facility that is used by OPG and Kinectrics employees who live or work in the west end of Toronto. Like Hydrokids, this centre is open to the broader community and reflects the diversity of the families and communities they serve.

POWER WITHIN ACHIEVEMENT AWARDS

OPG's Power Within Achievement Awards pay tribute to the outstanding accomplishments of its skilled, determined and committed employees in eight diverse categories. At the awards ceremony held in 2001, 49 OPG employees were honoured for achievements ranging from individual successes of committed leaders to the impressive performance of unit production teams. These employees showed a commitment to excellence that models the company's vision for its workforce. The Environment Award recognizes employees who make an extraordinary contribution towards a more sustainable energy future, or who demonstrate outstanding protection of the environment while meeting our business needs. In 2001, Senior Nuclear Engineer John LaMarre was presented with the Environment Award for the development of a breakthrough radiological monitoring technology that led to a dramatic drop in total reported radiation Dose to Public at Pickering GS.

EMPLOYEE AWARENESS

Employee awareness is key to the success of our environment, health, safety and citizenship programs. Every year, OPG celebrates a variety of events such as Earth Day and Environment Week, and participates in broader community initiatives such as Pollution Probe's Clean Air Commute Week. We also observe memorials for Remembrance Day and the Day of Mourning.

CODE OF BUSINESS CONDUCT

OPG's Code of Business Conduct reinforces our belief that personal values and integrity are the source of sound, ethical business decisions, including respect for the environment and a commitment to health and safety. The appointment of a Chief Ethics Officer, a senior position at OPG, helps to reinforce our Code of Business Conduct. The Chief Ethics Officer provides advice and guidance on the provisions of the Code of Business Conduct, ensuring that appropriate management action is taken to investigate and manage known or suspected violations.

In addition to other complaint resolution processes, OPG has an Ombudsman who is available to employees to resolve workplace concerns about administrative fairness in a manner that is consistent with corporate values, policies and procedures.

COMMUNITY RELATIONS

CORPORATE CITIZENSHIP PROGRAM (CCP)

OPG's Corporate Citizenship initiatives provided over $2.1 million in 2001 to more than 550 environmental, educational and community initiatives that specifically enhance the quality of life in communities where we operate. OPG has chosen these three focus areas because they reflect the company's vision of sustainable development. We were very pleased to commit $1 million to the Ajax and Pickering site of the Rouge Valley Health System to establish the Ontario Power Generation Nuclear Medicine Clinic.

Examples of CCP environmental initiatives and partnerships include:

- Ducks Unlimited Canada: $100,000 toward the rehabilitation of Second Marsh, one of the few remaining coastal wetlands on Lake Ontario, and located in Oshawa between our Pickering and Darlington nuclear plants. OPG is the lead corporate sponsor of this wetland rehabilitation project and a corporate benefactor of Ducks Unlimited Canada.
- World Wildlife Fund Canada (WWF): $75,000 over three years in support of WWF's Conservation Sciences and Solutions Fund.

In-kind support:

- OPG's in-kind donations are administered through In Kind Canada, a public foundation that distributes them to charitable and non-profit groups across Ontario. In 2001, OPG donated $600,000 worth of reusable items such as office furniture and supplies. Since its launch in 1994, In Kind Canada has processed over $60 million worth of gift-in-kind donations from Canadian corporations.

More information on OPG's citizenship initiatives is available on the company's Web site at **www.opg.com/envcomm/c_summary.asp**.

Earth Day

To celebrate Earth Day 2001, Corporate Environment and Public Affairs sponsored a Photo and Kid's Poster Contest for employees and their families. We received an overwhelming number of submissions from our young artists, and the descriptions accompanying the entries were as imaginative as the art itself. All the artists received a T-shirt imprinted with their artwork.

EMPLOYEE CHARITY CAMPAIGN

OPG employees raised $1.8 million in their annual Charity Campaign to support over 1,400 charitable organizations such as the United Way, the Canadian Cancer Society, The Salvation Army, the Heart and Stroke Foundation and The Hospital for Sick Children.

OPG supported volunteerism in its workforce by seconding four employees to the Greater Toronto Area United Way Campaign for 17 weeks in 2001.

WORKING WITH COMMUNITY STAKEHOLDERS

COMMUNITY PRINCIPLES

OPG's vision of sustainability includes a commitment to enhance quality of life in the communities that host our generating facilities. We will progress toward this vision by strengthening our community relations through constructive dialogue and responding to community concerns.

DIALOGUE WITH COMMUNITY STAKEHOLDERS

OPG's major generating facilities host regular public meetings and open houses to encourage face-to-face dialogue with community stakeholders. These events are attended by senior OPG executives. Our nuclear stations have established Site Advisory Committees to ensure regular face-to-face dialogue among company representatives and community stakeholders, and have set up information centres for the public.

PUBLICATIONS

OPG's Principles for Operating in Site Communities

1. Operate our facilities to high standards of personnel and public safety.
2. Recognize our position as stewards of the natural environment and operate our facilities in a manner consistent with the principles of sustainable development.
3. Continually improve the operation of our facilities.
4. Conduct business in an open and transparent manner within the bounds of commercial operations.
5. Communicate candidly, honestly and openly about facility operations with the community and ensure that appropriate emergency notification procedures are maintained.
6. Participate in local liaison committees with municipal representatives and stakeholders.
7. Provide timely notice of public events and communications to the host municipality.
8. Be a good corporate citizen by contributing to the quality of life in the communities in which we operate.
9. Pay our fair share of taxes to our host municipalities.
10. Encourage our employees to volunteer and participate in the community.

OPG is committed to building co-operative, inclusive communications with all its stakeholders. We produce and distribute a wide variety of materials to report on our progress including:

- Annual and quarterly financial reports;
- Annual sustainable development report *(Towards Sustainable Development)*;
- Over two million sustainable development media inserts in lifestyle magazines;
- Greenhouse Gas Action Plan filed annually with the VCR;
- Monthly publication for employees, pensioners and their families *(Power News)*;
- Darlington and Pickering *Nuclear Report Cards* for employees and communities;
- Facility-based community newsletters *(Neighbours)*;
- Web site **www.opg.com** (over 380,000 visitors in 2001).

Benchmarking:

Last year Stratos Inc. ranked OPG's annual Sustainable Development Report among the top 10 in Canada. The Stratos report is available on-line at **www.stratos-sts.com/sts_files/stratos.cover-keymessages.pdf**. OPG also received useful feedback on its Sustainable Development Report from a survey of opinion leaders in industry, government, NGOs, academia and financial institutions. Many of their recommendations have been incorporated in the report this year.

COMMUNITY OUTREACH

Outreach programs:

- Employee volunteers visited 28,000 households in Ajax, Pickering and Nanticoke in 2000 and 2001 as part of OPG's "Neighbourhood Walk" programs.
- By participating in the Breath of Hope Relay at SkyDome in Toronto, over 80 teams (54 from OPG) helped to raise more than $138,000 for The Lung Association in this pilot event. OPG is a founding and title partner of the Breath of Hope Relay.
- At the Pickering Nuclear Station Open House and Community Day, the focus of the one-day event was to inform the community of OPG's progress in readying Pickering A to return to service. There were plant tours, games and a barbecue, celebrating the station's 30th anniversary.
- The Darlington Kidsummer Event in 2001 attracted 350 people to OPG's section of the Waterfront Trail. The event was hosted by Darlington Nuclear Station, in partnership with Central Lake Ontario Conservation Authority, Darlington Provincial Park, Ganaraska Forest Region Conservation Authority and the Native Cultural Centre of Durham Region.
- On May Day, local Boy Scout troops partnered with OPG employees to plant trees along the Darlington Waterfront Trail. Over the past 15 years, this partnership has planted more than 30,000 trees on the Darlington nuclear site.
- OPG launched three new energy educational programs for Grades 3, 5 and 6 students in site community schools in 2001.

Energy education programs:

- In 2002, OPG became the first Corporate Sponsor of March Break at the Ontario Science Centre (OSC). We also sponsored the Electricity Demonstration, including the world-famous Van de Graaff generator ("static ball"). OPG developed a "Fun with Energy" Educational Activity Folder to teach children about electricity and environmentally-friendly energy choices. Over 60 OPG ambassadors were on hand at the OSC to answer questions from the public, hand out literature, and assist young people with the "Fun with Energy" activities.

Security

Security has always been a priority at OPG's generation facilities. Following the September 11 terrorist attacks on the United States, additional programs were implemented at our nuclear stations for the protection of our employees and the public.

- In 2001 and 2002, OPG was a sponsor of National Engineering Week. As part of this year's National Engineering Week celebrations, OPG engineers showed children how wind-powered turbines work at TVO Kids stage shows in four Ontario cities.

- In 2001 and 2002, OPG was the Lead Corporate Partner for the Engineers are Everyday Heroes educational project which it spear-headed with TVOntario. The project promotes the study of engineering and science among primary-school children in Ontario by helping to demystify these subjects.

- OPG sponsored the Ontario Supplement of the Pembina Institute's Climate Change Awareness and Action Educational Kit, designed as a learning tool for high schools on the subject of climate change.

- OPG was Title Sponsor for the FIRST Regional Robotics Competition held in Canada. Almost 44 high-school teams from across Canada and the U.S. competed in Mississauga in the spring of 2002.This is the first time that this U.S. competition has been held in Canada.

- OPG is the Lead Corporate Sponsor of the Queen's University Solar Vehicle Team. After facing technical difficulties in the early stages of the American Solar Challenge in 2001, the Queen's team made a remarkable comeback to place fourth.

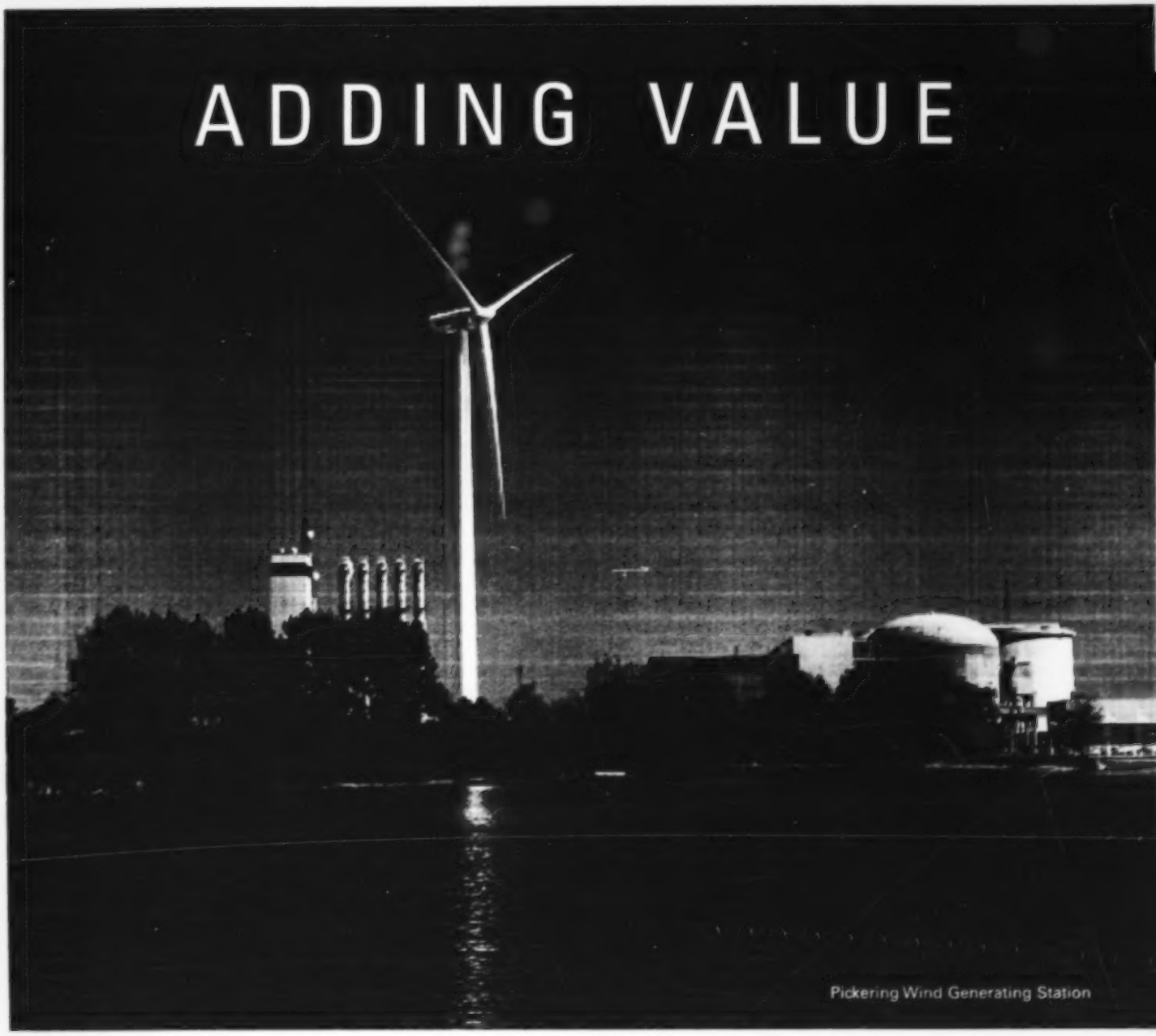
Scholarship programs:

OPG provides a number of scholarships to university, college and high-school students across Ontario. For more information, please see our Web site at **www.opg.com/envComm/C_schol.asp**.

Endowment:

OPG committed $5 million over five years to establish a Universities Network of Excellence in Nuclear Engineering involving five universities: McMaster, Queen's, Toronto, Waterloo and Western Ontario. The program will assist in creating five industry research Chairs at the partner universities, as well as provide scholarships for students enrolled in a course-based Master's program in nuclear engineering.

ADDING VALUE



Pickering Wind Generating Station

ADDING SHAREHOLDER AND CUSTOMER VALUE

With the opening of the electricity sector to competition, the people of Ontario can choose their electricity supplier based on the combination of products and services that hold the greatest value for them. Consumers can purchase electricity from Ontario-based companies, or from companies that are based outside this province or country.

Bruce Boland
Senior Vice President, Sales & Marketing

"When customers told us they wanted green energy products, we listened. We're now the largest supplier of certified Green Power in Ontario. Customers want choice and solutions. We're responding."

OPG is ready to compete in the open market. We have enhanced our trading and sales capability through strategic investments in technology and new products and services that will help customers better manage the risks of the open market. We have strengthened our generation capacity through plant upgrades and environmental improvements, and by expanding our Green Power portfolio. OPG is transforming the culture of its organization to focus on delivering excellence in customer service, and to reward excellence in its workforce. Our goal is to be a premier North American energy company, while operating in an open and environmentally responsible manner.

OUR CUSTOMERS

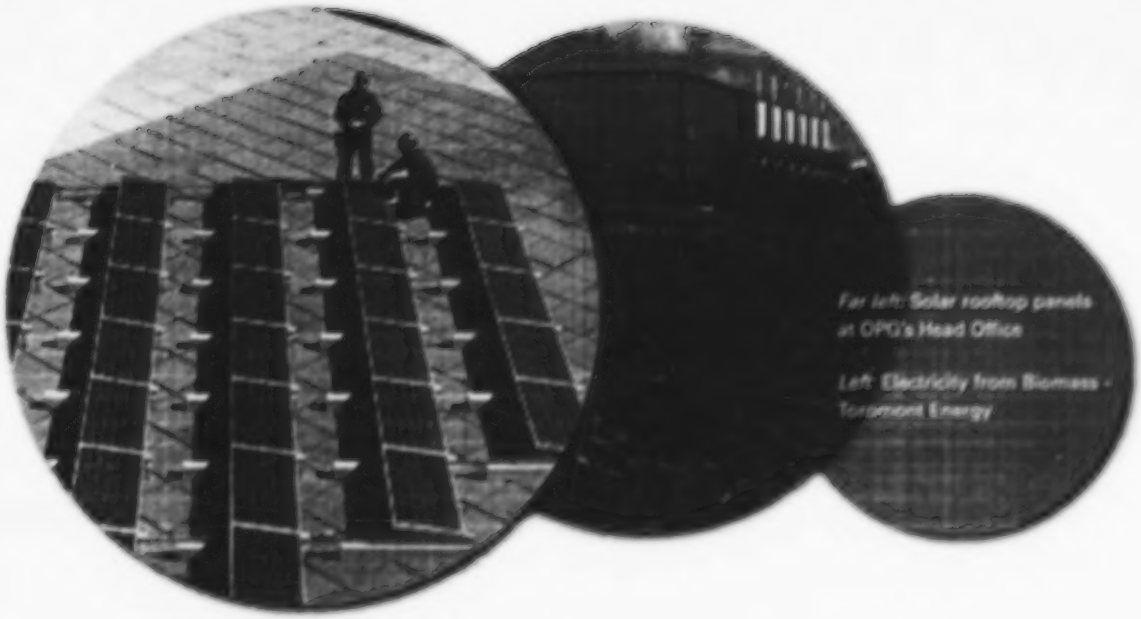
With the electricity market open to competition in 2002, OPG's bilateral customers will include large and midsized commercial and industrial users, and energy retailers. We will now be selling energy directly into the wholesale market via the Independent Electricity Market Operator. OPG does not sell electricity directly to residential customers.

PURCHASING ELECTRICITY IN A COMPETITIVE MARKET

In a competitive electricity market prices change hourly, sometimes dramatically. Since electricity cannot be stored, the balance between supply and demand is typically affected by weather conditions, temporary shortfalls in generation or transmission system capacity. Other competitive markets have shown that any of these conditions can cause significant price volatility. Companies who wish to protect themselves from price fluctuations will need to engage in some form of risk management strategy to protect their bottom line. How much protection is needed depends on a company's tolerance for risk, which is usually directly correlated with how important electricity costs are to a company's total operating costs. To assist industrial and commercial customers to minimize their risk, OPG offers a suite of standard and customized risk management products and an expanding line-up of energy-related services such as Verification, and Billing and Reporting Services.

OPG has also introduced an energy management software, Envision, which generates real-time views to give customers a clear picture of all utility use and associated costs for anything that can be metered such as electricity, natural gas, water, steam, compressed air, etc. Customers can aggregate, compare, and contrast data and therefore make more informed decisions about how they buy and use utilities. For more information about purchasing electricity in the new market, and how companies can benefit from competition, visit OPG's customer Web site at **www.opgdirect.com**.

Additional information about Ontario's electricity market opening can also be obtained from the Ontario Energy Board Web site at **www.oeb.gov.on.ca** or the Independent Electricity Market Operator Web site at **www.iemo.com**.



Far left: Solar rooftop panels at OPG's Head Office

Left: Electricity from Biomass - Tolpmont Energy

GREEN POWER

OPG continues to develop Green Power capacity because it is a strategic component of our vision to become a sustainable energy company, and because our commercial, industrial, and reseller customers have told us they want to purchase environmentally friendly electricity.

In 2001, we established OPG-Evergreen™ Energy Division, headquartered in North Bay, to manage the development and operation of our Green Power portfolio.

OPG-Evergreen™ currently has about 140 MW in the Green Power portfolio. All OPG Green Power is generated from EcoLogo™-certified facilities. At present, most of this comes from OPG's own small hydro plants, as well as from commercial wind projects. At the time of commissioning in 2001, Pickering Wind Generating Station was the largest wind turbine in North America. In addition, OPG-Evergreen™ has power purchase agreements for electricity from other Green Power projects including wind, landfill gas and biomass. Some examples of key OPG initiatives in each resource area in 2001 include:

Wind:

- Installed in August 2001 a 1.8 MW prototype Vestas V80 wind turbine on the site of OPG's Pickering nuclear station. It will generate enough electricity to supply the annual needs of about 600 residential customers.
- OPG and British Energy Canada finalized an agreement to jointly develop a 10 MW wind farm on OPG-owned property adjacent to the Bruce Power site near Kincardine, Ontario. Environmental screening for the project was completed and approvals received, with the wind farm scheduled to be in service in 2002.
- Installed a 40 kW Enertech wind turbine at St. Lawrence College near Cornwall, Ontario, to assist the college in raising the profile of wind energy and to complement its engineering technologist program. OPG is also discussing other small wind turbine installations with several educational institutions.

- OPG-Evergreen™ Energy contributed to development of the Wind Power Task Force Report that provides recommendations to government to facilitate wind development in Ontario.

Small hydro:

- Received Board approval to construct a new, low-impact hydroelectric generating station adjacent to our Ear Falls station in Northwestern Ontario. When completed in 2003, the Lac Seul Generating Station will have capacity of about 12 MW.

Biomass:

- Signed power purchase agreement with Canada Composting Inc. for output from an anaerobic digester/biogas plant in Newmarket, Ontario.

Solar:

- Installed a 5 kW PV array on the roof at OPG headquarters in Toronto.
- Installed a Solarwall at OPG-Evergreen™ headquarters in North Bay to provide supplemental heating and offset the facility's natural gas costs.
- Upgraded Watts on Wheels mobile solar unit to provide support at company and customer events, and as an on-site power source during construction of Pickering Wind Generating Station wind turbine.

For more information about OPG-Evergreen™ Energy and its program to expand the Green Power portfolio, please visit our "green" pages at **[illegible]**.

GREEN POWER CERTIFICATION

OPG-Evergreen™ co-operates with initiatives to ensure that Green Power purchasers are protected and that supplier commitments are met. It participated in a Green Electricity Ontario initiative to develop a Retail Green Power Code for the Ontario market, actively participated in a review of draft EcoLogo® Guidelines for Low Impact Renewable Electricity, and is involved in a Canadian Electricity Association project to assess the feasibility of using Scientific Certification Systems for Environmentally Preferred Power to assess and certify Green Power sources.

Good for Business... Good for the Planet

Green Power refers to low-environmental-impact electricity generated using clean, renewable energy resources such as wind, solar, biomass and low-impact hydroelectric facilities. All Green Power sources used to supply OPG's new Evergreen™ environmentally friendly products are certified under the federal government's EcoLogo™ program.

Customers can choose from the following three green offerings:

- Evergreen Friendly™ power is generated by EcoLogo™-certified facilities built before 1991. It is targeted at resellers, who would likely choose to blend this power with electricity generated by facilities built after 1991.
- Evergreen Clean™ power is a blend of renewable energy generated by facilities of which 50% were built before 1991, and 50% after 1991. All of these facilities are EcoLogo™-certified.
- Evergreen Pure™ is generated by EcoLogo™-certified energy facilities built after 1991.

PURCHASING GREEN POWER FROM OPG

In anticipation of the opening of the electricity market, OPG introduced Ontario's first full line of environmentally friendly electricity products in early 2002. The products are targeted at industrial and commercial customers that want to visibly demonstrate their environmental commitment, and at energy resellers who want to provide Green Power choices to their customers. OPG's environmentally friendly power is sold under the Evergreen™ brand and will exceed the strict industry performance standards.

Electricity generated by nuclear, hydroelectric, fossil and renewable sources all supply Ontario's electricity grid. Because of the way electricity is generated and distributed, users cannot distinguish the source. Customers purchasing Green Power contract with OPG for a defined amount of power to be generated from certified environmentally friendly sources and supplied to the grid. Because this power displaces energy that would have been produced from conventional sources, there is a positive and measurable improvement to the environment. OPG will ensure compliance with all regulatory obligations.

Purchasing OPG's Green Power is straightforward and requires no physical change to how customers get their electricity.

OPG will help its Green Power customers to promote the positive impact of supporting electricity that is generated by clean and renewable resources. All Green Power customers will benefit from OPG's Green Power Recognition Program.

For more information on OPG's Green Power products, visit our Web site at **www.greenpower.opg.com**. OPG does not supply electricity directly to residential and small-business customers. Such users interested in Green Power should contact their local distribution company and/or energy retailer.

GREEN POWER SPONSORSHIPS

OPG-Evergreen™ Energy provided financial support for a number of Green Power events in 2001, including:

- Clean Energy Fair at the Kortright Centre, north of Toronto, that attracted a large number of Green Power exhibitors and several thousand customers and the public at large.
- Canadian Wind Energy Association's annual conference in Ottawa.
- 2nd Annual Green Power Trade Show in Richmond Hill, Ontario.

Fuel Cell

Clean, energy-efficient fuel cell technology is moving from the laboratory into the power plant. In co-operation with the Siemens Westinghouse Power Corporation, the Government of Canada, the U.S. Department of Energy (DOE) and a number of other partners, OPG is building, and will operate, the world's largest pre-commercial solid oxide fuel cell (SOFC) combined heat and power plant. An SOFC is an all-ceramic, solid state device with no liquids or moving parts. It produces electric power by an electrochemical reaction, avoiding about 50% or more of the air emissions associated with traditional combustion processes. There are virtually no emissions of sulphur dioxide or nitrogen oxides, and carbon dioxide emissions are significantly reduced. When supplied with a fuel such as natural gas, fuel cell systems can operate continuously.

By 2010, SOFC technology is expected to reduce greenhouse gas emissions by approximately eight million tonnes and create more than 1,000 Canadian jobs. Our company has contributed $3.7 million to this project over three years.

NEW, EMERGING ENERGY TECHNOLOGIES

In addition to proven Green Power sources, OPG is investing in innovative technologies of the future that will make energy generation, transmission and consumption more efficient and environmentally friendly. OPG Ventures Inc., our company's venture capital subsidiary launched in 2001, will invest $100 million over three years in entrepreneurial companies or energy technology funds that complement OPG's core business and expertise. OPG Ventures will provide assistance that best helps each company to meet its goals: funds for growth, strategic and financial advice, or day-to-day operational support. It will focus on private companies in the late startup or early commercialization stages of development, which can be a more difficult time to obtain financing.

Since its launch, OPG Ventures has invested in the following companies or funds:

- Envenergy Inc.: Provides a hardware, software and networking solution which helps to control energy costs in commercial buildings and equipment, optimizes their energy buying, and improves overall facility management.
- NxtPhase Corp.: Provides digital and fibre-optic solutions for the electricity industry, including fibre-optic current and voltage optical sensors, protection relays, and recording equipment used in the control and measurement of electricity.
- SoliCore Inc.: Developing new battery technology that represents the next generation in electrolyte technology. Its lithium-ion polymer system provides superior electrical performance, with high-energy density and less environmental impact.
- Nth Power: A leading U.S. venture capital firm dedicated to high-potential investments resulting from the restructuring of the global energy industry.
- Sustainable Asset Management (SAM): An independent asset management company, headquartered in Zurich, which invests internationally in small-growth companies in the emerging energy sector.

BENCHMARKING OPG'S ENVIRONMENTAL AND SOCIAL PERFORMANCE

Benchmarking studies by Innovest Strategic Value Advisors in 2001 ranked OPG third among 16 North American utilities in its environmental performance, and second in the social area. Maintaining this leadership position will help to provide OPG with significant competitive benefits, including:

- A strong market position in Ontario based on public expectations that companies should demonstrate greater environmental and social responsibility.
- Improved access to U.S. markets as environmental concerns also increase in that country.

- Enhanced employee morale; increased ability to attract and retain a high-quality workforce; potentially reduced insurance and financing costs; and enhanced innovation capacity.

Innovest uses a best-in-class approach rather than an absolute rating approach because this is most useful to investors. OPG's leading score should not be interpreted to mean that the utility does not have room for significant improvement.

CONTRIBUTING TO THE ECONOMY OF ONTARIO

In 2001, OPG contributed billions of dollars to the Ontario economy. This included almost $1.5 billion in goods and services purchased in Ontario; $1 billion in employee salaries; and almost $900 million in payments in lieu of taxes, dividends and water rental payments to the province.

NUCLEAR WASTE MANAGEMENT AND DECOMMISSIONING

To provide for the safe, long-term management of nuclear waste and the decommissioning of our nuclear stations, OPG sets aside about $400 million every year in a segregated fund. To date, we have contributed about $1.2 billion to this fund.

Brighton Beach Power L.P.

Coral Energy, ATCO Power and OPG are proposing to develop a new 580 MW natural gas-fired combined-cycle generating station in Windsor, Ontario. Plans call for the facility to produce electricity for Coral Energy, an unaffiliated independent power marketer, who will sell the electricity to interested customers. This project will not add to OPG's control of generating capacity in the Ontario electricity market.

This project is a significant, cost-effective new supply of electricity generation for Ontario. The Ontario government's decision to open the electricity sector has prompted new participants such as ATCO Power and Coral to enter the market.

OPG is pleased to be investing in this project with Coral Energy and ATCO. The agreement is a significant step toward the success of a project that will help increase competition and customer choice in the Ontario electricity marketplace. It will also greatly benefit the community of Windsor by providing jobs and enhancing electricity supply reliability in the area.

AUDITOR'S REPORT

Compilation Criteria

Our sustainable development reporting accounts for only those facilities where we have environment, health and safety responsibilities, and is not based on financial ownership. The following criteria have been used to compile the data included in this report:

Inclusion Principles

- OPG reports 100% of all environmental and financial data for generating facilities for which OPG holds the operating permit or licence, regardless of financial ownership.
- OPG reports any data from its facilities or operations that were discontinued in any calendar year.

Reporting Entity

- OPG does not include activities done by OPG joint venture partners.
- Covers only direct operational impacts; does not cover supply chain impacts like emissions from product suppliers.

Reporting Scope

- The data in this report covers the period January 1, 2001 to December 31, 2001.
- This report covers all three elements of our sustainable development performance – environmental, economic and social data. We only claim those achievements that are directly attributable to our actions.
- We do not claim upstream or downstream impacts or benefits.

To: Ron Osborne
President and Chief Executive Officer
Ontario Power Generation Inc.

We have been engaged by Ontario Power Generation Inc. (the "Company") to audit the collation, at the corporate office, of the environmental and production data in Appendix A and Appendix B (the "Environmental Information") for the year ended December 31, 2001 and for the year ended December 31, 2000 for National Pollutant Release Inventory ("NPRI") and Accelerated Reduction/Elimination of Toxics Program ("ARET") information contained in Appendix B as reported in the Company's "2001 Towards Sustainable Development Report ("SD2001")".

SD2001 and the Environmental Information therein which is subject to our engagement, are the responsibility of the Company's management. Our responsibility is to express an opinion whether the Environmental Information subject to our engagement has been collated, in all material respects, in accordance with the criteria developed by management as described in the Compilation Criteria and has been properly transcribed and aggregated and consistently presented from year to year, and is supported, in all material respects, by appropriate, underlying evidence.

Our engagement was not intended to provide assurance on the Company's compliance with environmental laws and regulations.

We did not carry out any work on data reported in respect of future projections or targets. We are not providing commentary on the data gathering and measurement processes outside of the head office.

Our audit was conducted in accordance with the standards for assurance engagements established by The Canadian Institute of Chartered Accountants. These standards require that we plan our audit to obtain reasonable assurance that the data is free from material misstatement. Our audit included examining, on a test basis, evidence supporting the amounts and disclosures in the Environmental Information, which was subject to our engagement and performing such procedures as we considered necessary in the circumstances. The main elements of our audit were:

- An examination of the suitability of the Compilation Criteria in the sidebar to the left, established by management.

- The examination, on a test basis, of the procedures for gathering and processing Environmental Information.

- The examination, on a test basis, of evidence supporting the quantitative and qualitative information as far as it forms the subject matter of this engagement.

- The assessment as to whether the Company has appropriately applied the Compilation Criteria on the previous page.

Considerations and Limitations

The preparation of the Environmental Information requires management to make estimates and assumptions that affect reported amounts and disclosures in the Environmental Information. Actual results could differ from those estimates.

It is important to read the environmental statements and graphs in the context of the explanatory information and the notes to the graphs and performance tables.

Environmental data are subject to many more inherent limitations than financial data, given both their nature and the methods used for determining, calculating or estimating such data.

Opinion

In our opinion, the environmental and production data in Appendix A and Appendix B, as reported in the SD2001, for the year ended December 31, 2001 and for the year ended December 31, 2000 for NPRI and ARET information contained in Appendix B, has been collated, in all material respects, in accordance with the criteria established by management as set out in the Compilation Criteria on the previous page and has been properly transcribed and aggregated and consistently presented from year to year.

We have not been engaged to report on whether the Company is in compliance with environmental laws and regulations and, accordingly, we do not express an opinion in this regard.

We have prepared our assurance report based upon terms of the engagement agreed with the Vice President, Sustainable Development, which are available upon request. Readers are cautioned that SD2001 and the assurance engagement that we have performed on the Environmental Information therein may not be suitable for other purposes.

Collation for the 2000 Towards Sustainability Progress Report was audited by another firm of Chartered Accountants.

Deloitte & Touche LLP

Toronto, ON
April 19, 2002

APPENDIX A

Ontario Power Generation for the years ended December 31

Totals may not add up due to rounding

Nuclear

General Information

Net Generation

Dose to Public

Pickering A & B GS

Generation capacity: Pickering A: 2,060 MW,
Pickering B: 2,064 MW
Located on Lake Ontario in the city of Pickering, each generating station has 4 units. Pickering A is temporarily out of service during the nuclear recovery program.
Number of used fuel bundles stored on site: 479,800
Tel: (905) 839-1151

Generation (net GWh)			Dose to Public (μSv)		
2001	2000	1999	2001	2000	1999
12,957	9,968	13,649	6.8	3.6	13.1

Darlington GS

Generation capacity: 3,524 MW
Located on Lake Ontario in the town of Newcastle, 70 km east of Toronto. This generating station has 4 units.
Number of used fuel bundles stored on site: 191,522
Tel: (905) 623-6670

Generation (net GWh)			Dose to Public (μSv)		
2001	2000	1999	2001	2000	1999
26,142	26,581	25,411	1.2	1.8	3.8

Bruce A & B GS

Generation capacity: Bruce A: 3,076 MW,
Bruce B: 3,140 MW
Located on the eastern shore of Lake Huron between Kincardine and Port Elgin, each generating station has 4 units. Bruce A is temporarily out of service. The Bruce GS was leased to British Energy on May 12, 2001 and is now known as Bruce Power.

Generation (net GWh)			Dose to Public (μSv)		
2001 *(Jan 1 - May 11)*	2000	1999	2001 *(Jan 1 - May 11)*	2000	2999
8,688	23,280	22,360	1.3[1]	3.0	4.1

[1] Estimated at date of facility transfer to Bruce Power.

GLOSSARY

k	kilo	x 10^3	kg = 1,000 grams	kWh (kilowatt-hour) = unit of electricity production
M	Mega	x 10^6	Mg = one million grams = one tonne	MWh (megawatt-hour) = 1,000 kWh which is approximately equivalent to the electricity used by one household in a month
G	Giga	x 10^9	Gg = 1,000 tonnes	GWh (gigawatt-hour) = one million kilowatt-hours which is approximately equivalent to the electricity used by 80 homes in one year
T	Tera	x 10^{12}	Tg = one million tonnes	TWh (terawatt-hour) = 1,000 GWh which is approximately equivalent to the electricity used by 80,000 homes in one year — in 2000, OPG generated 137 TWh (net) of electricity

Gross generation (generally expressed in MWh)	Total electricity produced by a generating station
Net generation (generally expressed in MWh)	Gross generation minus internal energy use
Generation capacity (generally expressed in MW)	Indicator of generating station size based on its capacity to produce electricity on a continuous basis

APPENDIX A

Fossil

General Information

Net Generation & Emissions

Atikokan GS

Generation capacity: 215 MW
Located west of Thunder Bay, the station has 1 coal-fired unit equipped with low-NOx burners.

Generation (net GWh)

2001	2000	1999
838	994	1,115

Emissions (tonnes)

	2001	2000	1999
SO_2	4,480	4,820	5,560
NOx	950	1,100	1,310
CO_2	850,000	1,020,000	1,130,000

Lakeview GS

Generation capacity: 1,138 MW
Located in Mississauga. The station has 8 coal-fired units, 4 of which are currently mothballed.

Generation (net GWh)

2001	2000	1999
3,081	2,905	3,271

Emissions (tonnes)

	2001	2000	1999
SO_2	19,000	16,900	18,100
NOx	5,050	6,480	8,740
CO_2	2,760,000	2,700,000	3,000,000

Lambton GS

Generation capacity: 1,974 MW
Located on the St. Clair River south of Sarnia, the station has 4 coal-fired units, 2 of which are equipped with SO_2 scrubbers.

Generation (net GWh)

2001	2000	1999
10,472	12,415	9,001

Emissions (tonnes)

	2001	2000	1999
SO_2	28,300	41,400	27,300
NOx	11,800	14,800	12,800
CO_2	9,420,000	10,800,000	7,800,000

Lennox GS

Generation capacity: 2,140 MW
Located on Lake Ontario in the town of Greater Napanee. The station has 4 oil and/or natural gas-fired units.

Generation (net GWh)

2001	2000	1999
3,243	1,288	2,393

Emissions (tonnes)

	2001	2000	1999
SO_2	1,880	655	1,750
NOx	2,450	1,080	2,130
CO_2	1,880,000	843,000	1,600,000

Nanticoke GS

Generation capacity: 3,920 MW
Located on Lake Erie, the station has 8 coal-fired units fitted with low-NOx burners.

Generation (net GWh)

2001	2000	1999
21,124	23,519	19,038

Emissions (tonnes)

	2001	2000	1999
SO_2	86,500	92,900	81,800
NOx	22,400	25,200	24,300
CO_2	20,260,000	21,500,000	17,000,000

Thunder Bay GS

Generation capacity: 310 MW
Located in Thunder Bay, this station has 2 coal-fired units.

Generation (net GWh)

2001	2000	1999
1,670	1,613	1,643

Emissions (tonnes)

	2001	2000	1999
SO_2	8,810	7,490	7,720
NOx	1,970	1,870	2,090
CO_2	1,800,000	1,620,000	1,600,000

Hydroelectric

General Information

Net Generation

Niagara Plant Group

Generation capacity: 2,244 MW
Includes 6 stations, HQ in Niagara area

Generation (net GWh)		
2001	2000	1999
11,860	12,246	12,355

Ottawa/St.Lawrence Plant Group

Generation capacity: 2,542 MW
Includes 10 stations, HQ in Renfrew

Generation (net GWh)		
2001	2000	1999
11,494	11,873	11,550

Northeast Plant Group

Generation capacity: 1,270 MW
Includes 13 stations, HQ in Timmins

Generation (net GWh)		
2001	2000	1999
4,740	4,671	4,958

Northwest Plant Group

Generation capacity: 1,137 MW
Includes 14 stations, HQ in Thunder Bay

Generation (net GWh)		
2001	2000	1999
5,018	5,017	14,228

Evergreen Energy

General Information

Net Generation

Evergreen Energy

Generation capacity: 140 MW
HQ in North Bay

EcoLogo™-certified[2] Generation (net GWh)		
2001	2000	1999
664	610	540

EcoLogo™-certified Green Power generation capacity from 30 OPG stations (29 small hydro stations and 1 wind turbine): 128 MW

EcoLogo™-certified Green Power capacity available from Power Purchase Agreements: 12 MW

41

Total available Green Power capacity: 140 MW

704

Other Generation (net GWh)
0.7

Other capacity pending EcoLogo™ certification (Pickering Wind GS): 1.8 MW

[2] EcoLogo™ is a registered mark and symbol of Environment Canada's Environmental Choice Program.

APPENDIX B

Ontario Power Generation for the years ended December 31

Indicator	2001	2000	1999
ENERGY GENERATION BY SOURCE (gross GWh)			
Fossil	42,100	44,500	38,000
Hydroelectric (Renewable)	33,200	34,600	33,700
Nuclear	51,200	64,300	65,900
Evergreen Energy	700	[1]	[1]
Total Internal Energy Generated	127,200	143,300	137,600
ENERGY GENERATION BY SOURCE (net GWh)			
Fossil	40,400	42,700	36,500
Hydroelectric (Renewable)	33,100	34,400	33,600
Nuclear	47,800	59,800	61,400
Evergreen Energy	700	[1]	[1]
Total Internal Energy Output	122,000	136,900	131,500
ENERGY CONVERSION EFFICIENCY OF FOSSIL GENERATING STATIONS			
Total Energy Input (GWh equivalent)	118,200	123,800	102,500
Net Energy Output (GWh)	40,400	42,700	36,500
Fuel Conversion Efficiency (%)	34.2	34.5	35.6
OPG INTERNAL ENERGY EFFICIENCY			
Gross Generation (GWh)	127,200	143,300	137,600
Net Generation (GWh)	122,000	136,900	131,500
Generation Energy Efficiency (%)	95.9	95.5	95.5
Internal Energy Saving - cumulative since 1994 (GWh)	2,370	2,133	1,897
ATMOSPHERIC EMISSIONS - FOSSIL			
Total Gross Annual CO_2 Emissions (tonnes)	37,000,000	38,500,000	32,100,000
Total Gross Annual SO_2 Emissions (tonnes)	149,000	164,100	142,100
Total Gross Annual NO_x[2] Emissions (tonnes)	44,600	50,500	51,400
EMISSION RATES - FOSSIL			
CO_2 Emissions (tonnes/GWh net)	916	901	880.4
SO_2 Emissions (tonnes/GWh net)	3.69	3.84	3.90
NO_x Emissions (tonnes/GWh net)	1.10	1.18	1.41
ATMOSPHERIC EMISSIONS - NUCLEAR			
Total Gross Annual CO_2 Emissions (tonnes)	56,800	121,600	147,200
Total Gross Annual SO_2 Emissions (tonnes)	400	914	299
Total Gross Annual NO_x Emissions (tonnes)	100	144	204

[1] Previously included in Hydroelectric.

[2] NO_x is the abbreviation for NO, NO_2 and N_2O. OPG reports its NO_x emissions as NO as required by regulations.

Totals may not add up due to rounding

Indicator	2001	2000	1999
ATMOSPHERIC EMISSIONS - OPG			
Total Gross Annual CO_2 Emissions (tonnes)	37,057,000	38,622,000	32,247,000
Total Gross Annual SO_2 Emissions (tonnes)	149,400	165,000	142,400
Total Gross Annual NOx Emissions (tonnes)	44,700	50,700	51,600
EMISSION RATES – TOTAL OPG			
CO_2 Emissions (tonnes/GWh net)	303.8	282.0	245.2
SO_2 Emissions (tonnes/GWh net)	1.23	1.21	1.08
NOx Emissions (tonnes/GWh net)	0.37	0.37	0.39
NUMBER OF REPORTABLE SPILLS			
Category A Spills	0	0	0
Category B Spills	0	1	0
Category C Spills	18	28	43
PCB MANAGEMENT (tonnes)			
High Level PCB material in storage	21	65.5	39.9
High Level PCB materials sent for destruction	189	137	202
Estimated inventory of High-Level PCB material in service	1,542[1]	1,660	1,789
Low Level PCB materials in storage	7	3.5	19.4
Low Level PCB material sent for destruction	3	11.5	8.20
Estimated inventory of Low-Level PCB material in service	1	2.9	3.1
RADIOACTIVE WASTE MANAGEMENT			
Used Fuel - annual production (tonnes of uranium)	800	1,005	1,071
Used Fuel in storage (tonnes of uranium)	26,460	25,657	24,520
Low & Intermediate Radioactive Waste produced (m^3)	5,300	4,774	4,613
Low & Intermediate Radioactive Waste stored (m^3)	2,080		
UTILIZATION OF SOLID COMBUSTION BY-PRODUCTS			
Total Ash and Gypsum produced (tonnes)	1,620,000	1,808,700	1,466,300
Total Ash & Gypsum recycled (tonnes)	799,000	762,000	643,200
MANIFESTED WASTE GENERATION			
Solid Hazardous Wastes (tonnes)	290	397	126
Liquid Industrial and Hazardous Wastes (kilolitres)	7,941[2]	2,659	2,810

[1] Includes equipment in service at Bruce Power.

[2] Volume increase due to boiler cleaning at Pickering and disposal of water treatment wastes and resin at Darlington.

APPENDIX B

Indicator	2000	1999	1998
NPRI Emissions: air, water and land[5] (tonnes unless otherwise specified)			
Ammonia	30.6	44.4	55.3
Arsenic	33.9	30.6	29.6
Asbestos	0	11.0[6]	0
Benzo(a)anthracene	0.013	NR	NR[7]
Benzo(a)pyrene	0.006	NR	NR
Benzo(b)fluoranthene	0.012	NR	NR
Benzo(e)pyrene	0.012	NR	NR
Benzo(g,h,i)perylene	0.014	NR	NR
Chromium	167.4	118.1	92.9
Cobalt	50.3	31.9	26.1
Copper	165.6	115.3	84.7
Dibenz(a,h)anthracene	0.004	NR	NR
Dibenz(a,j)acridine	0.019	NR	NR
Dibenzo(a,i)pyrene	0.001	NR	NR
Dioxins/Furans	6.42 g	NR	NR
7H-Dibenzo(c,g)carbazole	0.028	NR	NR
Fluoranthene	0.012	NR	NR
Hexachlorobenzene	884.1 g	NR	NR
Hydrazine	1.18	1.9	1.9
Hydrochloric Acid	9728.3	7,037.7	6,709.6
Hydrogen Fluoride	597.1	339.4	295.0
Indeno(1,2,3-cd)pyrene	0.003	NR	NR
Lead	48.6	35.6	26.0
Manganese	211.7	142.3	157.9
Mercury	836.1 kg	NR	NR
Nickel	103.9	74.7	64.0
Phenanthrene	0.110	NR	NR
Polychlorinated dibenzo-p-dioxins + dibenzofurans	1.24 g TEQ[8]	NR	NR
Pyrene	0.015	NR	NR
Selenium	16.0	12.1	9.4
Sulphuric Acid	949.9	794.7	863.9
Zinc	109.9	76.8	81.9

[5] For detailed information on the breakdown of OPG's NPRI data by emissions to air, water, and land, please visit the NPRI Web site at **http://www.ec.gc.ca/pdb/npri/npri_home_e.cfm**. Year 2001 data was not available at the time of printing.

[6] Asbestos removed from service for disposal

[7] NR = not reported prior to 2000

[8] g TEQ = grams Toxic Equivalent

Indicator	1993 Base Year	2000		1999	
ARET Emissions (tonnes)	**Water Only**	**Air**	**Water**	**Air**	**Water**
Arsenic (inorganic)	0.013	0.326	0.055	0.272	0.109
Copper (inorganic salts)	56.48	4.701	16.21	4.066	15.430
Hydrazine	3.08	0.210	1.043	0.193	1.796
Zinc (inorganic, inhalable, soluble)	22.37	5.934	6.311	6.771	6.158
PCBs	0	0	0	0	0
Lead[9]	0.051	0.358	0.088	0.337	0.124
Chromium (Cr 6+)[9]	NA[10]	0.103	0	0.095	0
Mercury[9]	NA	0.550	0.001	0.630	0.002
Nickel[9]	NA	1.256	0.082	1.445	0.128
Cobalt	NA	0.301	0.075	0.252	0.108

[9] These substances were added to the list in 1998. Monitoring and reporting of air emissions was introduced in 1998. Data for 2000 was not available at time of printing. Prior to 1998, OPG reported emission releases of these substances to water only. In 1998, we expanded our monitoring and reporting program to include air emissions, and added four contaminants to our ARET list.

[10] NA = Not Available

Ontario Power Generation Facilities

- **40 Hydroelectric** 7,200 MW
- **31 Green Power** 140 MW
- **6 Fossil** 9,700 MW
- **3 Nuclear** 7,600 MW
  (of which 2,060 MW is laid-up)

Mississagi River stations have been sold to Brascan Corporation (subject to closing)

◯ Fossil-fueled stations to be decontrolled

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We welcome your comments or any questions you may have about this report.

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